ACTICAL SUGGESTIONS FOR TEACHING

Edited by HOLLIS L. CASWELL

Number 1: Revised and Enlarged

F.B.A.

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Teaching
THE
Slow Learner

By W. B. FEATHERSTONE
Professor of Education
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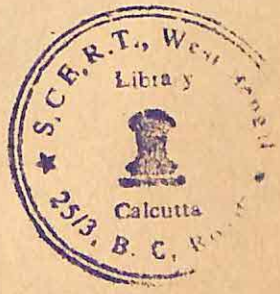

BUREAU OF PUBLICATIONS
TEACHERS COLLEGE • COLUMBIA UNIVERSITY
NEW YORK • 1951

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TEACHERS COLLEGE
COLUMBIA UNIVERSITY
SECOND PRINTING, AUGUST 1953

371.92
FEA

(Binding)

S.C.E.R.T., West Bengal
Date 2.9.55
Acc. No. 830

Bureau Edn. Psy Research
DAVID HARE TRAINING COLLEGE
Dated 2.9.55
Accn. No. 830

PRINTED IN THE UNITED STATES OF AMERICA
BY AMERICAN BOOK–STRATFORD PRESS, INC., NEW YORK

Editor's Introduction

EVERYONE who knows schools is aware of the overage boys and girls who are to be found in a large percentage of American classrooms. Usually in the back of a room in an ordinary school there are a few seats several sizes larger than the others. In these seats generation after generation of retarded pupils have taken their places. Gathered together from room to room and from grade to grade, these pupils make a sizable group. With the exception of a boy here and there who rebels at school procedures and is failed because he does not conform, this group is composed of children for whom intellectual tasks are of more than average difficulty. Since their abilities are limited they constantly find their more fortunately endowed companions pushing ahead and crowding them out of the usual competitive school situations.

The education which these slow-learning children acquire is of major importance to American democracy. We often hear eulogies to the "common man"; these children are a part of that great group. They will do their share of the work of the world, they will cast their votes, they will participate in the activities of labor unions and farm organizations, they will make homes. What they become, the ideals they develop, are vital to our national welfare.

Yet the school often merely tolerates this group of children, convincing them through repeated failure in competition with abler companions that they are of little consequence. Most teachers have been aware of the problem thus presented, but the means of remedying the situation have not been clear.

This monograph presents a direct, simple procedure for attacking the problem of educating the slow learner. The organization of material is such that the teacher, supervisor, or principal may readily relate the discussion to his own school situation. The materials will be found of value to any one who is concerned with the better education of the less fortunately endowed of our children.

HOLLIS L. CASWELL

Dean of Teachers College, Columbia University

Preface

ABRAHAM LINCOLN once remarked that the Lord must have loved the common people because he made so many of them. The same might well be said for the slow learners in our schools. It is a good thing, too, that the Lord loves them, for they are, alas, not always the object of their fellow men's affection. They are, of course, no more entitled to affection than their more fortunately endowed brothers and sisters. But too often they fail to elicit a favorable opinion solely because they are unable to meet unreasonable expectations in school. They are nevertheless not too slow of wit to know that they are not especially welcome in many a school, nor too dull of feeling to sense that a grudging welcome warrants a grudging response to the school's demands. It is small wonder that the slow learners often become the bane of a teacher's existence, or that school sometimes becomes the *bête noire* of the slow learner's life.

In every sample of one hundred pupils selected at random from the elementary schools of the nation, there are at least twenty who must be regarded as slow learners. They are the ones who are left behind year after year, who, so it is said, clog the machinery of public education. They are the ones who take up the time and energy of teachers—time and energy that might with greater profit, it is claimed, be devoted to more promising pupils. Many taxpayers and public officials criticize the use of public funds for the education of such pupils. And yet, if the American ideal of education for "all the children of all the people" is to be more than empty words, ways must be found to fit the school as effectively to the needs of the slow learners as to the needs of the more rapid learners.

If anyone doubts the need of sincere efforts to educate these slow learners, let him consider the fact that twenty out of every hundred pupils chosen at random means at least four million for the country as a whole. Then let him ponder the consequences for the general welfare of permitting that number of future adult citizens to grow up

illiterate, uncultured, and uninitiated in the American way of life. If anyone doubts the soundness of investing a considerable sum in their education, let him try to forecast the consequences of *not* making that investment, bearing in mind, of course, diminished capacity to produce as well as to consume, but more important, not overlooking the declining zeal for the democratic way of life that invariably accompanies illiteracy and ignorance. Let all who question the wisdom of education for "all the children" remember that America has not heretofore provided education for all as a gift from a strong, wealthy, and good people, but rather has become strong, wealthy and good because education has been provided for all the people.

The first edition of this monograph was written primarily with the elementary school in mind. While much of it was equally pertinent to the junior and senior high schools, experience has shown that teachers have felt a need for somewhat more explicit help in planning a suitable curriculum for slow-learning youth. Consequently, this edition includes a new and separate chapter on "What to Do About the Slow Learner in Junior and Senior High School." Fortunately, a good many junior and senior high schools are coming to realize that the conventional scheme of organizing such schools leaves a good deal to be desired even for average and bright pupils. Many schools are beginning to organize their programs so as to provide greater stability and continuity of grouping, better opportunity for the development of good pupil-teacher relationships, and a better setting for rich and vital curriculum experiences.

In this edition, the basic design, philosophy, and procedure developed in the first have been retained, with modification and somewhat fuller treatment of a few details. It is believed that, with the new chapter, the present edition will be useful to any teacher of slow learners, no matter where he teaches.

That the slow learners are capable of being effectively educated cannot be denied in view of the facts. Little space is devoted here, therefore, to discussing the matter. Primarily, this book is devoted to ways and means of designing and carrying on a curriculum well adjusted to the needs of that large group which, being neither "average" nor subnormal, has heretofore been largely overlooked in most educational thinking and planning.

W. B. F.

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CHAPTER I

The Slow Learner—Who He Is and What He Is Like

MANY persons think they know a slow learner when they see one—that the signs are unmistakable. So thought the teachers of Edison, Newton, and a good many other geniuses. Their error should serve both as a warning against offhand judgments of other people, and as a stimulus to find out what slow learners are like and how to identify them.

Psychologists have pointed out many times that people cannot be sorted into neat groups labeled "slow learner," "average learner," "fast learner," and the like, with any great precision. People differ in degree, not in kind; they are all variants of one type. Each individual possesses more or less of all the characteristics possessed by the whole human race. Beauty, honesty, intelligence, resourcefulness, and perseverance are not the exclusive property of one group, nor are ugliness, dishonesty, and stupidity the exclusive property of another. There is a little goodness in the worst of them; a little badness in the best of them.

Nevertheless, there is a persistent tendency to classify and apply labels, to sort out sheep from goats, and to build up a set of ideas about what is true and not true of the sheep or the goats. The results are often unfortunate. Some highly desirable characteristics of the goats may be overlooked because all goats are supposed to be obnoxious and stubborn, and some undesirable and unfortunate characteristics of the sheep may be unnoticed or condoned because all sheep are supposed to be meek and lovable. All "sheep and goat" classifications of people must be regarded as at best very loose groupings, allowing for much overlapping between groups, and of course taking into account only a few of the characteristics that make up human personality.

WHAT "SLOW-LEARNINGNESS" MEANS

Ordinarily, "slow-learningness" or "slow learner" refers to the capacity of an individual to learn intellectual things—the kind of capacity that is measured by verbal intelligence tests. At best the term is a rather euphemistic and unsatisfactory one. Even though children and youth of less than average capacity are in fact slow in many of their mental and physical responses and in their rate of growth and development, it is easy to fall into the error of assuming, as many have, that in time the slow learner will catch up with the quicker or brighter ones. If a youngster's slowness or backwardness, in school or out, is due to lack of skill or technique or to some sensory defect or other remediable fault, he may catch up, with skillful instruction and guidance. But if his slowness is due to lack of native capacity, he will, in most instances, not catch up. He will of course go through the same sequence of growth and development as others and will in time arrive at maturity. But he will not reach the same level of performance at maturity as those with greater native endowment, at least not in those matters that involve a considerable amount of intellectual activity. Any single term that may be proposed to designate the individual who is equipped with less than average native capacity to learn is open to objections; no single term is adequate to describe or define either quantitatively or qualitatively a process that is so complex—that has so many facets and dimensions—as the process of growing into maturity. The term slow learner is therefore perhaps as good—or as bad—as any other. Largely because its use has become general, the term is employed throughout the pages that follow, with the hope, it may be added, that it will not be taken too literally or applied too narrowly.

There is no fixed standard or level of ability below which a pupil must be called a slow learner, but in common practice pupils with an I.Q. below 91 and above 74 are so labeled. This is purely a pragmatic definition, based upon the fact that most pupils with an I.Q. of 90 and above manage to succeed fairly well with the intellectual tasks of the prevailing school curriculum, and are therefore labeled average or bright, while very few pupils with an I.Q. below 75 ever achieve much success in the ordinary curriculum. These latter are usually referred to as the mentally handicapped and are often placed in special classes.

For practical purposes, the range of I.Q.'s used to describe the slow-learning pupils in a school may be established by each school in the

light of its own total situation. The lower limit can be 70 or 75, depending on what arrangements are made for those below 70 or 75. If it is the general practice to place pupils with an I.Q. of 70 and below in ungraded or special classes, then I.Q. 71 becomes the lower limit of the slow-learning group. But there are likely to be pupils with an I.Q. of 70 in most schools who would nevertheless get along better in a class with pupils, most of whom have I.Q.'s between 70 and 85; and there will probably be pupils with an I.Q. of 75 who will get along better in a class with pupils, most of whom have I.Q.'s below 70. It usually is better, therefore, to look not at the upper and lower limits of a group, but at its average, and to regard the members of the group as deviating from, or clustering round, a "central tendency." Thus a slow-learner group may be thought of as having a "central tendency" or average of about 85 I.Q. The individuals should be thought of as having I.Q.'s of 85 plus or minus 5 or 7 or 10, as the case may be. The individual pupils should be placed with the group that on the whole provides the best setting for necessary and desirable group activities and interests. It is easier to do this if one thinks more about the general average of a group and less about demarcation from other groups.

In the interest of clearness in thinking about and planning for slow learners, the term "slow learner" should be interpreted consistently to mean slow in learning intellectual things. Slow learners are not equally slow in all kinds of activities or abnormal in all their characteristics. They may be rather bright in such matters as social adaptability, mechanical ability, or artistic sense, and able to get along quite well in these respects, even though they cannot read very well or do much with arithmetic. It is a great injustice to assume that because a pupil is slow in reading, he is necessarily slow in all other things. If such an attitude is taken, a pupil's best talents may go unnoticed, his greatest possibilities unrealized. Social adjustment, artistic skill and appreciation, and competence with one's hands are quite as much the concern of the school as reading or arithmetic.

Nor should one assume that a slow learner is equally slow in all those activities that are primarily intellectual. Arithmetic computation and spelling and handwriting do not correlate highly with reading or arithmetic reasoning. Nevertheless, reading plays so large a part in these other subjects that effective work in them is very dependent on how well a child can read. But mechanical abilities or skills, social adaptability, and artistic sense are not so dependent on reading; hence

a slow learner should not be thought of as inevitably slow in these respects. One does, of course, encounter pupils who are consistently slow in practically all their reactions—the all-round slow-learning pupil. Most individuals, however, are so variable and uneven in their abilities that a grouping or classification based on intelligence tests and other measures of verbal ability will not automatically place pupils in satisfactory groups for art or music or shop work or social affairs.

HOW THE SLOW LEARNER COMPARES WITH OTHER PUPILS

Comparatively little is known, in a scientific way, about the growth patterns of individual slow learners, but there is evidence to suggest that they have the same quality of uniqueness that one finds in studying the growth pattern of other children. While each child passes through the same sequence of developmental "stages" and has essentially the same developmental tasks, each child's rate and pattern of growth appears to be determined largely by his own innate potentialities for growth, and cannot be radically changed by external forces without grave risk of damage to the personality.[1] An adequate picture of a particular slow learner cannot be drawn by merely comparing him at any particular stage of his development with other children of the same age, because such cross-sectional comparisons do not, and cannot, take full account of factors that operate in a longitudinal sense. Nevertheless, if care is taken not to generalize too broadly concerning individuals from what is true of groups, it will be helpful to summarize briefly the main characteristics of slow learners.

Physical Characteristics

In physical development slow-learning children are about as variable and heterogeneous a lot as average children. But age for age they are a little less well developed on the average than normal children. They are a little less tall and heavy and a little less well proportioned, but not enough to cause special concern or require exceptional treatment. In matters of health, however, slow-learning children as a group differ more conspicuously from average children. Defects of hearing and speech, malnutrition, defective tonsils, adenoids, and defects of vision are considerably more frequent than among average children. On the

[1] See *The Education of Exceptional Children*, Part II, Chapter IV, 49th Yearbook, National Society for the Study of Education, 1950.

basis of his studies of a great many slow learners, Burt concluded that the most common condition "appears to be a child who is suffering or has suffered during his preschool life not from any single well-defined complaint but from a plurality of minor troubles, all contriving to manifest and maintain a lowered state of bodily vitality. The outstanding condition is what is often vaguely termed as general debility, partly no doubt innate, and partly due to various post-natal and environmental conditions—poor feeding in early years, a series of minor infections, lack of proper food and sleep, all aggravated by excessive worry and fatigue and the countless petty evils that obstruct the child's growth and undermine his energy in an unwholesome and unsanitary environment." [2]

Of particular importance are the relatively large number of defects of hearing and of vision encountered among slow-learning children. Such defects are numerous, of course, among all children, but one needs to be especially alert to their presence and energetic in trying to correct them in the case of slow-learning children. Every physical handicap that can be overcome increases a child's opportunity to make the most of such intellectual capacity as he has, to say nothing of contributing to his comfort and happiness.

Personality and Adjustment

It is widely believed that slow learners as a group have poor personalities and are less well adjusted than average or bright pupils, but there is little conclusive evidence to support such a belief. Studies [3] of the adjustment of groups of slow learners, as compared with bright groups, employing such devices as the Maller Personality Sketches, indicate that the bright pupils are a little better adjusted and the slow learners a little less well adjusted than normal, but the differences, while statistically significant, are small. One's personality, of course, is an extremely complex matter and is incapable of being described adequately in such simple terms as good, fair, poor, and the like. Only as one "spells out" personality in terms of more specific components, traits, variables, or characteristics can one gain much useful knowledge of how slow learners compare with others. In one quite detailed

[2] Cyril Burt, *The Backward Child*, p. 206. New York: D. Appleton-Century Company, 1937.

[3] See, for example, Georgia Lightfoot, *Characteristics of Bright and Dull Children*. New York: Bureau of Publications, Teachers College, Columbia University, 1951.

study, referred to above, slow learners were compared with bright learners on the basis of some forty attributes. There were statistically significant differences "in favor of" the slow group in the attributes of self-distrust, physical timidity, dependence, and deference, and "in favor of" the bright group in the attributes of ability to make friends, leadership, rivalry, concentration, initiation of social activity, zest, sympathy for friends, dominance, self-confidence, creativity, curiosity, courage, self-defense, and playfulness. In few attributes, however, were the differences great and in many there were no differences at all, as, for example, in bluffing, cooperation, selfishness, physical aggression, obedience, kindliness, verbal aggression, desire for approbation, gregariousness, emotionality, protectiveness, antagonism to authority, reticence, generosity, defensiveness, and exclusiveness.

It is of course to be expected that in personality characteristics closely associated with or dependent on intellectual capacity, bright youngsters will excel slow learners, as they do in such matters as achievement, creativity, dominance, and curiosity. But in such matters as selfishness, kindliness, obedience, dependence, deference, and exhibition, which are rooted primarily in the affective life, slow learners are not barred from achieving entirely satisfactory degrees of goodness. It is worthy of note that in the particular investigation referred to above, the children, both slow learners and bright, had the advantage of an educational environment and regimen designed to develop good personalities, and both groups responded equally well.

Laziness and Inattention

Slow-learning children are very often alleged to be uncommonly lazy, and with good reason, but one should be careful not to assume that laziness is constitutional. Laziness is frequently due to ill health, and even more frequently to educational maladjustment. Poor powers of attention are also noted more frequently among slow-learning children than among average children. Again, one must avoid the easy generalization that inattention is a native defect, incapable of improvement. Attention is only partially a matter of mental resources. Primarily it is a matter of will power or interest and depends chiefly upon the meaningfulness and purposefulness of the situations to which one is required to attend. Slow-learning children do seem to have a somewhat shorter span and narrower scope of attention than average children, but this is not one of their major characteristics. The cure for

inattention, as for laziness, is neither exhortation nor shorter units of meaningless subject matter, but rather greater meaningfulness and purposefulness of subject matter and activities.

Higher Mental Processes

It is with respect to intellectual traits, of course, especially the higher mental processes, that slow-learning children are most conspicuously different from the average. In such simple matters as visual and auditory perception they are not markedly different. The amount of difference increases, however, as one considers the slow learner's performance in such matters as defining, distinguishing, and analyzing. It is particularly in the highly complex mental operations of reasoning that the slow-learning child falls short. This is, of course, to be expected, for reasoning is in essence the exercise of intelligence—the marshaling of one's intellectual powers and resources in dealing with a problematic situation. Reasoning involves recognition or identification of the problem to be solved or the situation to be reasoned about, the formulation of possible solutions or courses of action which offer promise of fulfilling the requirements of the situation, the testing of these possible solutions against remembered experience. It requires clarification, revision, rejection, or selection as fitting the requirements. All this must be carried out in the imagination—the workshop of the mind—without so much as overtly batting an eye. It is quite clear why the slow-learning child is a poor reasoner. It is poor reasoning that makes him slow.

There is, however, no substitute for reasoning; one must learn to reason as well as one can. The improvement of reasoning is, therefore, one of the chief concerns of education. On the basis of present knowledge there is perhaps not much ground for supposing that instruction will increase the innate capacity to learn to reason. There are, nevertheless, substantial grounds for optimism concerning the possibility of improving the individual's effective reasoning—that is, of "making him smarter."

HOW THE SLOW LEARNER LEARNS

The slow-learning pupil learns in the same way, fundamentally, that other pupils learn. That is, he learns from and by experience. He imitates, he purposes and plans, he thinks and reasons, he experiments, he generalizes, and he draws upon his past experience and "transfers"

it, or "reconstructs" it, to meet new situations. But he does not think and reason as well, he is less imaginative, less able to foresee the consequences of either an overt or an implicit course of action, and is inclined to reach conclusions without adequately considering alternatives and without the benefit of much reflection. He is more likely to act upon impulse and to accept a fairly workable solution or approximate result than to exercise caution in advance or to be severely critical of the adequacy of his behavior for the situation in hand. At the same time, he is often more insistent on knowing what the purpose of an activity is or where it is leading, particularly if it is an activity suggested or required by someone else.

The slow learner is rather unwilling to act upon someone else's purposes or ideas or someone else's assertion that a particular course of action would be desirable; he insists on quick results and is impatient and inclined to lose interest in the face of deferred or intangible returns. Nevertheless, as he grows older he is often rather more suggestible than average or brighter pupils where his own interests or purposes are involved, and ready to plunge into an activity on ill-considered grounds. This is seen in his tendency to place great store by whatever is being done and to accept and imitate social conventions and manners, often unconsciously, in order to bolster his self-respect and to reinforce his sense of belonging.

THE SLOW LEARNER'S NEEDS

The slow learner has the same fundamental needs as other individuals, although, of course, the means by which his needs can be met are necessarily somewhat different. The slow learner requires adequate food, clothing, shelter, and rhythm of activity and rest. His "status" needs for belonging, affection, and likeness to others are no different from those of other children; in fact, it is inability to realize these needs through the channels normally open to average and brighter children that motivates much of the slow learner's behavior. He requires, in common with all other children, opportunity for increasing self-direction as he grows older and learns to manage affairs more adequately. He requires contact and harmony with reality in order that he may have a rational basis for his behavior. He, too, needs to grow in self-realization, in perception of selfhood. He needs to understand and accept himself for what he is. He needs the same balance between success and failure that all other children need.

SOME COMMON MISCONCEPTIONS ABOUT SLOW LEARNERS

Mention should be made, finally, of some mistaken notions and popular stereotypes about slow learners that should be carefully avoided. The most common of these are perhaps the following.

Compensation

The fact that human abilities are not perfectly correlated often leads the unwary to a fallacious belief in compensation. This implies that if a pupil is backward in reading or other intellectual abilities he will be bright, or at least average, in other abilities, particularly in manual skills. Some even believe that *because* an individual is handicapped in one respect he will inevitably have a compensating superiority in some other respect. This is a comforting thought, but a romantic one, because it has no basis in fact. A pupil who is slow in arithmetic, say, is just as likely to be even slower in manual skill as he is to be faster. And a pupil who is "weak in the head" is just as likely to be as weak or weaker in the back as he is to be stronger. The "strong back–weak mind" formula does not hold, nor does the "beautiful but dumb" formula. Many teachers fall into the error of thinking slowness is compensated by size and strength because they overlook differences in ages. The slower pupils in an average mixed classroom tend to be bigger and stronger than the rest because they are older.

Hand-mindedness

Another common misconception closely related to the foregoing is the "hand-mindedness–book-mindedness" notion. There is little, if any, basis in fact for assuming that the whole population can be sorted into two such groups in the first place, and even less basis for assuming that the hand-minded group, if such exists, is made up of slow learners exclusively. Slow-learning pupils are no more likely to be hand-minded than they are to be not hand-minded; the same is true of bright pupils. Teachers are often led into the mistaken notion that slow-learning pupils tend to be essentially hand-minded because they show relatively greater interest and achievement in manual activities. This, however, is due as often to the greater purposefulness and meaningfulness of the manual activities as it is to greater capacity of the pupils. In comparison with rather meager achievements in most of

the academic subjects of the curriculum, the attainments of slow-learning pupils in shop work, drawing, or crafts seem very good, but these attainments are seldom better than the attainments of bright pupils in the same kinds of activities, provided the bright pupils have had an equal opportunity to engage in manual activities. The important thing to keep in mind is that more or less hand-mindedness is characteristic of every individual and every group, no matter what the individual or group I.Q. The belief that a wholly non-verbal curriculum is required for the backward pupil cannot be justified.

Delinquency

Another common misconception is that every slow-learning pupil is a potential delinquent. Strictly speaking he is, as is every bright pupil. What people usually mean is that every slow-learning pupil is a presumptive delinquent, which is certainly not the case. The idea has arisen partly because apprehended and incarcerated delinquents as a group are inferior in intellectual capacity to the general population, but this does not prove that every slow-learning individual in the general population is likely to become a delinquent.

The opportunities for, and stimuli to, delinquency are more often present in the environment of slow-learning pupils than is the case with brighter pupils, because the former group tend, by and large, to live in the less favored communities, particularly in the larger cities. Low income, poor housing, poor home management, inadequate play and recreational facilities, and often poor schools appear to make up a reasonably homogeneous pattern of circumstances surrounding the slow-learning pupil. It might well be said, then, that the slow learner's environment predisposes toward delinquency. The possibility of delinquent behavior as an outlet for the individual's energies should always be in the teacher's mind. But there is little reason to suppose that the slow-learning pupil, because of his slowness alone, is more likely to become delinquent than any other pupil.

THE FUNCTIONAL SLOW LEARNER

One must of course recognize that not all educational backwardness or educational maladjustment is caused by limited intellectual capacity. The mere fact that a pupil does not get along well in school, fails to read as well as other children in a group, plays truant, or is a troublemaker, is not conclusive proof that he is a constitutional slow

learner. Malnutrition, poor health, emotional tension, trouble with parents or brothers and sisters, poor eyesight or hearing, meager educational resources in the home are only a few of the reasons other than limited intellectual capacity why children fail to meet expectations. One should never assume, as some teachers are prone to do, that educational backwardness is due to intellectual limitations, and therefore presumably permanent, until all other possible causes have been examined, and in so far as possible removed. One should always assume at first that the cause of failure is some factor or factors in the instructional program that can be controlled or changed, or some condition in the pupil's physical or cultural circumstances that can be improved.

This is particularly important in a school planning to use segregation or special grouping as a means of improving the opportunities of slow-learning pupils. Unless one is extremely careful and critical, the segregated class for slower pupils becomes a dumping ground for all the misfits in school. Even though a desirable program for slow-learning pupils may in all probability be the best kind of program for many other kinds of misfits, at least in the beginning, teachers of other pupils should not be permitted to escape responsibility for developing a program that meets the needs of the intellectually more fortunate by the simple expedient of transferring the troublemakers to classes which have been organized for slow learners.

SUMMARY

In summary, then, the slow learner is a person very much like the rest of humanity. He is not a "type," but rather a variant of one type. He has more or less of the common characteristics of all other pupils in school—the same basic needs, the same ways of learning, and about the same amount of variability and unevenness of abilities and other resources. Being by definition somewhat less intellectual, he does not reason or learn to manage abstractions and symbols as well as the average. In most other respects, however, it is very difficult to tell the difference between an average child and a slow learner. Very few of the important differences can be discerned by the eye. Much more must be known before one can properly conclude that any individual is a slow learner.

CHAPTER II

How to Locate the Slow Learner

THE most satisfactory and reliable method of identifying the slow-learning pupils in a school is, of course, to give every pupil an individual intelligence test. This is, however, a time-consuming procedure and one not always possible because persons qualified to administer such tests may not be available. There are ways, nevertheless, in which this method can be approximated. These may be employed both as a substitute for the better method, and, in schools having access to expert testing service of some sort, as a preliminary screening process to locate pupils who should receive more comprehensive study.

STUDYING THE AGE-GRADE-PROGRESS STATUS OF PUPILS

The first thing to do is to study the age-grade status of the pupils. Most schools employ the device of retardation or non-promotion as a means of adapting instruction to the pupils. In so far as failure to achieve standards for promotion is due to intellectual limitations, the consequences of such limitations will show up in the overageness of pupils at different grade levels. By and large, then, overageness at any grade level may be taken as presumptive evidence of slow-learningness. One must be careful, however, to check rate of progress at the same time. Not all pupils start to school at the same age. Since normal progress means one grade each year, a pupil may have made normal progress, that is, been promoted regularly, and still be overage. Thus a pupil in the fourth grade should normally be nine and a half to ten and a half years of age. If he is older than that, he presumably has been left back in some earlier grade and may then be presumed to be a slow learner. But before concluding tentatively that such is the case,

one should check the cumulative records and ascertain whether this particular pupil started to school at the normal age of six (i.e., five years nine months to six years three months), or perhaps a year later.

Making a Record for Each Pupil

Since one must locate actual pupils, a mere statistical analysis of the age-grade-progress status of the school will not suffice. Each teacher will need to make a list of the pupils in his particular group, arranging them in order from oldest to youngest. He should then determine the amount of overageness of each pupil by finding the difference between the pupil's age (as of September 1 in an annual promotion school, or as of September 1 or March 1 in a semi-annual promotion school), and the normal age for that grade or half grade. He should then record the facts regarding the progress record of each pupil. Finally, for those overage pupils who started to school late, but whose progress has since been normal, he may well record his judgment whether the pupil is possibly a slow learner. This judgment may be based upon apparent present achievement or upon any other pertinent evidence the teacher has at hand, such as results of standardization tests or an intelligence test.

A tabulation similar to the following may be made for each group in a school:

Name of Pupil	Age as of (Date)	Amount of Overageness or Underageness	Progress	Estimate of Capacity
1. John Brown	12–3	+ 2–3 mos.	Repeated 1A, 3B, 3A. Entered 1B at 7.	Fair
2. William Hodges	12–1	+ 2–1	New pupil this year; no records available; says he repeated the third grade	Fair
3. Mary Smith	11–5	+ 1–5	Repeated 1A, 2B, 3A	Poor
4. Ralph Green etc.	10–9	+ 0–9	Normal	Very good

After such a tabulation has been made, the record for each pupil suspected of being a slow learner should be transferred to a separate

sheet. These sheets will serve as a convenient place to record further facts that now need to be gleaned from other sources. No very elaborate form or outline is required.

It is obvious that John and Mary, in the foregoing illustration, are in all probability slow learners. After some consideration of the kinds of additional information that may be needed, and how it may be obtained, the "case records" of these two pupils will be summarized by way of illustration.

Previous School Record

Most schools keep some form of cumulative record of pupils' scholastic achievement, showing at least the teacher's marks assigned at the end of the term, if nothing more. When such records are available, they should be examined for each pupil who is overage and who on present performance is regarded as, or suspected of being, a slow learner. While teachers' standards of marking differ widely, they nevertheless are comparable enough to furnish additional evidence concerning the pupils. These records should be examined to see whether a pupil's attainments have been consistently poor throughout his school career in the majority of his academic subjects. If so, there is again presumptive evidence of slow-learningness. But one should be equally alert to evidence that the pupil's record has been on the whole satisfactory, except for a slump here and there that presumably accounted for his being left back. When such is the case, one may reasonably assume that the pupil is probably not a slow learner. If present performance is none too good, one may safely assume that the same or similar factors that caused the earlier slump are operating again.

Using the Results of Tests

If the school uses standardized achievement tests, the cumulative record of these should also be examined and taken into account in estimating the pupil's capacity. Consistently low scores in reading comprehension and arithmetic reasoning are especially significant. The results of such standard achievement tests can provide in many cases a fair approximation of intelligence quotients, particularly for those pupils who are old enough to have had several such tests. If over a period of time standardized test scores in reading comprehension show a reasonably consistent relation to the pupil's chronological age, such scores may be taken as roughly indicative of the pupil's mental age.

The following table shows a series of results of a standardized test of reading comprehension for one pupil.

C.A. (at time of test)	R.A. (Obtained)	Diff. between C.A. and R.A.
9–3	7–9	−1–6
9–7	8–4	−1–3
9–9	8–7	−1–2
10–2	8–3	−1–11
10–5	9–5	−1–0
Av. C.A. 9–10	Av. R.A. 8–6	Av. Diff. 1–4

The difference between the obtained Reading Age and the Chronological Age for this series of tests seems reasonably consistent. If the average obtained Reading Age is taken as a rough indication of the pupil's presumptive Mental Age, his presumptive I.Q. can be computed by the usual method of dividing his presumptive Mental Age (in this case his average Reading Age for the series) by his average Chronological Age. The computation in this case gives a presumptive I.Q. of 80. All presumptive I.Q.'s obtained in this way should be interpreted as plus or minus at least five points of I.Q. Thus, the pupil's I.Q. *may* be 75 or it may be 85.

If three or more reasonably consistent scores in arithmetic reasoning are available they, too, can be used to obtain a rough index of the pupil's I.Q. But one should not employ the results of tests in the content subjects, such as social studies or science, for this purpose; the correlations between them and verbal intelligence are too low.

How Much Leeway to Allow

In sizing up the total situation on the basis of such a survey and judging which pupils probably warrant special concern, it is advisable to allow as the normal variation from average a year of overageness resulting from a year of retarded progress. This will provide leeway for most of the unreliability of teachers' judgments and test scores. Pupils who are more than a year overage, but whose present achievement and past record are on the whole satisfactory (except perhaps for a temporary slump which presumably caused this retardation), may well be considered for special promotion to a higher grade. But those who are more than a year overage, who definitely have experienced

retarded progress, and whose records show a consistent pattern of mediocrity or worse, are possibly slow learners and in need of special attention. These pupils are the ones to be considered first in planning modifications of the school program.

STUDYING OTHER FACTORS

All pupils who appear to be slow learners on the basis of this first rough preliminary analysis should be studied as thoroughly as possible to see if any other factors account for the situation. Any school, with only fairly simple equipment, can make rough preliminary tests of eyesight and hearing. If the results indicate the need for it, such pupils should at once be placed in the most favorable positions in their classrooms for seeing and hearing. Arrangements should be made, if possible, for more careful clinical tests of those with the poorest showing on these preliminary tests, and efforts should be made to see that needed glasses or special services are provided. In addition, other gross and obvious evidences of poor health should be considered. Is the pupil much underweight or overweight for his age? Does he seem to be apathetic, lackadaisical, unable to concentrate, perpetually tired, pale, and anemic looking? Malnutrition and even sheer hunger may be the cause of his seeming backwardness. One should then study dietary habits and resources of the pupil, at school and at home if possible, and try to improve them before concluding that he is a slow learner. Of course he may still be a slow learner, but, even so, every effort should be made to improve his health and his health habits. Improving his health may not make him any brighter, but it will eliminate one factor which may contribute to backwardness.

All this requires, of course, that the teacher become acquainted with the home and neighborhood environment in which the pupil lives and learns. Tension and conflict in the home, arising from many causes—poverty, ignorance, maladjusted parents, lack of control or too much of it, and a hundred other things—may be the cause of difficulty at school. A vicious, unwholesome, unstimulating neighborhood, with no playgrounds, libraries, or other recreational resources, may be the cause. A pupil may be handicapped by environmental factors beyond the control of the school, and doomed to meager attainments and modest aspirations for life. Nevertheless, every reasonable effort should be made to improve the environmental circumstances.

USING GROUP INTELLIGENCE TESTS

As contrasted with individual tests, group intelligence tests are cheap, plentiful, and easy to administer. They should be used if at all obtainable. Group tests should be provided for at least all those who show up as presumably slow learners on the basis of the kind of analysis outlined in preceding pages, that is, all the retarded, overage pupils and all the at-age pupils who show a consistently poor record from the beginning of their school careers.

In using group intelligence tests with slower pupils it is advisable to choose tests in which the tasks to be performed are very similar to the ordinary school exercises to which the pupils are accustomed, and for which the directions are very simple. Tests that employ artificial alphabets, for example, and illogical and unnatural problems, are possibly more reliable from the test maker's point of view, but they frequently cause dismay, confusion, and emotional blocking among slower pupils. The results are sometimes very misleading. For younger children up to at least eight years of age one or more of the picture tests commonly recommended for first grade should be used. Ordinarily, slow children younger than eight will not have learned to read well enough to handle even the simpler verbal tests.

It is always advisable to give two different tests or alternate forms of the same test before reaching any conclusion about a pupil's capacity. If the scores of two tests are reasonably consistent, say within about five points of each other, the average may be taken as the pupil's probable I.Q. But if the tests differ by more than five points, one should check against any available scores on tests of reading comprehension or arithmetic reasoning and assume that the score is correct that is most clearly borne out by these achievement tests. In the absence of such additional evidence one should always give the pupil the benefit of doubt and assume that the higher obtained intelligence quotient is correct. In any event, it is necessary always to allow a probable error of five points in making use of the results of group intelligence tests; an I.Q. of 85 means anything from 80 to 90.

USING INDIVIDUAL INTELLIGENCE TESTS

If competent and adequate psychological service is available, individual tests should be administered. Ordinarily, however, for most schools there is much less of such service than is desirable. Therefore,

individual tests may be reserved for those about whom one cannot be reasonably certain on the basis of any of the data gathered by means already outlined. When the facts give a consistent picture of mediocre achievement over a fairly long period of time, one is reasonably safe in assuming, without giving an individual test, that the pupil is a slow learner. But such consistency often is not found. Some one particular ability or skill or some special interest may be a sign of actual mental capacity beyond what has otherwise been revealed. In all such cases individual tests should be given if at all possible. Such tests are especially necessary when there are grounds for suspecting that a reading disability or poor reading skills may be at the bottom of a pupil's mediocre performance. Only the oral interview and non-verbal performance features of the individual test can get around the heavy reliance on reading which characterizes most group tests.

"SIZING UP" THE SITUATION

After all is said and done, however, the teacher's own judgment is a very important consideration. Even when the tests are given by competent persons, there is still room for error in the results, and for misinterpretation or for failure to ascertain all the factors that contribute to a pupil's welfare in school. A decision that a pupil is a slow learner should always be made with the greatest reluctance. Holding tentative judgments helps to keep one alert to potential needs and capacities that might otherwise be overlooked. Such an attitude is especially important if the findings are going to be used as a basis for regrouping pupils, because the well-rounded, harmonious adjustment of an individual pupil is conditioned by a multitude of factors, many of them very subtle, and is often dependent on the particular group of which he is a member. All the facts that can be gathered by the processes outlined above do not necessarily "add up" to a foregone or inevitable result. Effort and interest may offset limited mental capacity to a considerable extent; the artificiality of most test situations may in some cases operate consistently and repeatedly to obscure a pupil's real abilities. Therefore, the teacher should not hesitate to place considerable reliance on his own subjective judgment, particularly after he has a good background of practical experience and after he has come to know the pupils rather well.

The following "case records" show how the procedures outlined in

the foregoing paragraphs shaped up for two of the pupils, John Brown and Mary Smith, mentioned on a preceding page.

ILLUSTRATION 1

Name of pupil: John Brown Grade 4A
Age (as of September 1, 19—): 12 years 3 mos.
Amount of overageness: 2 years 3 mos.
Progress: Entered 1B at 7; repeated 1A, 3B, and 3A.
Estimate of capacity (as of October 1, 19—): Fair.

October 10, 19—.

Notes on previous school record: Marks in reading in first grade consistently "poor"; repeated 1A; some marks of "fair" in second grade reading, but mostly "poor." Failed in reading and arithmetic in 3B first time; marked "fair" in reading, "poor" in arithmetic second time; failed both reading and arithmetic in 3A first time, poor in both second time.

Standard tests: None given to this pupil.

Notes on health: Current physical examination by school nurse reports 10 lbs. underweight; normal height. Thinks pupil underfed, but as yet no signs of anemia or malnutrition. Vision and hearing normal. Numerous defects of teeth; enlarged tonsils.

Notes on home visit, October 11: Family on home relief; father unemployed since last spring; three other children in family, two younger; mother apparently a good housekeeper. No books, magazines, or radio in evidence. Mother vaguely aware that pupil does not get on well in school, but no particular feeling about it. Mother said no money available to have teeth cared for. Neighborhood down at the heel, but no outward signs of vicious conditions. Children play usual street games. No playgrounds in the neighborhood. Mother did not know what child did after school.

Intelligence tests:

October 15, 19—. Otis Group Intelligence Scale, Primary Examination, Form A: Score 61, M.A. 10–1, I.Q. 83.
October 16, 19—. Henmon-Nelson Test of Mental Ability, Form A, Elementary School Examination: Score 55, M.A. 11–6, I.Q. 95.

Notes on discussion with principal, October 17: Possibly a slow learner. Next steps: Make study of reading ability. Put pupil on free milk list. Try to build up physical condition. Retain in present class for time being. Give special attention; put on list for possible retest in spring.

ILLUSTRATION 2

Name of pupil: Mary Smith Grade 4A
Age (as of September 1, 19—): 11 years 5 mos.
Amount of overageness: 1 year 5 mos.
Progress: Entered first grade at 6½, repeated 1A, 2B, and 3A.
Estimate of capacity: Poor.

October 10, 19—.

Notes on previous school record: Reading in 1B—fair; 1A, "failed," repeated 1A, reading mark, "fair." In 2B, reading marked "very poor," repeated grade, second time reading marked "poor." 2A, reading "very poor," arithmetic "fair," left back, second time in 3A, reading "fair," arithmetic "fair," 4B, reading "poor," arithmetic "poor."

Standard tests: No record; last year's teacher gave some tests but kept no records. Teacher no longer here.

Notes on health: Current examination by nurse reports normal height and weight; teeth apparently sound; hearing and vision normal. Mary seems to be healthy, strong, and well fed.

Notes on home visit, October 13: Fairly good neighborhood; home and yard rather neat. Mother apparently a good housekeeper; father regularly employed (postman); two other children—boy two years older, girl three years younger, than Mary. (Note: Must look up their school placement and record.) Radio but no books or magazines in evidence. Mary has few duties at home; mother says Mary is rather sickly and tires easily, so does all housework herself. Mary plays a good deal with neighbor girl almost two years younger. Mother doesn't know what they play—just "kid" games, she thinks. Goes to movies about once a week. Mother thinks Mary doesn't get good marks because she is "sickly," so doesn't "scold" her or try to get her to work harder at school.

Intelligence tests:

October 15, 19—. Otis Group Intelligence Scale, Primary Examination, Form A: Score 50, M.A. 9–2, I.Q. 81.

October 16, 19—. Henmon-Nelson Test of Mental Ability, Form A, Elementary School Examination: Score 33, M.A. 9–6, I.Q. 84.

Notes on discussion with principal, October 17: In all probability a slow learner. Transfer to new class for slow learners.

The situation seems fairly clear in the case of Mary Smith. Probably Mary is making the most of her mother's oversolicitousness and is putting forth a minimum of effort, but there is little doubt, from the evidence now available, that Mary is a slow learner. In the case of John Brown, however, the situation is not at all clear. If it can be managed, he should be given an individual intelligence test to throw light on the apparently inconsistent findings of the two group tests. At any rate, there is reason to hope that if he can be "fattened up" a bit and thus provided with more physical energy he may take a new lease on life. The decision to retain him with his present group, in the meantime making a diagnostic study of his reading abilities and giving him any necessary supplementary instruction, is wise for the next few weeks.

For such pupils as John, the instructional program may be thought of in large part as corrective and restorative, and it should always be assumed that they will return to the kind and level of program appropriate for average and brighter pupils. Every precaution must be taken to see that the words "corrective" and "restorative" do not come to mean incessant drill in academic facts and skills.

SUMMARY

In summary, then, several methods may be followed in locating the slow-learning pupils:

1. Examining the age-grade-progress record of the school and locating those pupils who are overage by more than a year and at the same time retarded in progress by more than a year.
2. Examining the past school achievement record of all such pupils for consistently mediocre attainments.
3. Administering two group intelligence tests or alternative forms of one test to all pupils if possible, but at least to all those listed as a result of 1 and 2 above.
4. Giving individual tests to all pupils if possible, but at least to those for whom the facts elicited by means of the procedures outlined above appear inconsistent or inconclusive.

All these procedures should be carried out with an attitude of mind which assumes that no pupil is natively a slow learner until all other causes of functional slowness, such as ill health, poor sight or hearing, unwholesome home or environmental conditions, or meager experiences, have been examined and, if possible, corrected.

Additional helpful suggestions on ways and means of locating the slow learners in a school, as well as on what to do about them after they are located, may be had from the following books:

Driscoll, Gertrude. *How to Study the Behavior of Children.* New York: Bureau of Publications, Teachers College, Columbia University, 1941.

Prescott, Daniel A. *Helping Teachers Understand Children.* Washington: American Council on Education, 1945.

Torgerson, Theodore L. *Studying Children.* New York: The Dryden Press, 1947.

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CHAPTER III

How to Organize for Teaching the Slow Learner

ONCE the slow learners have been identified, several matters of policy and procedure must be settled before one can go ahead with developing suitable curriculum and teaching practices. Four questions must be answered: (1) Shall the slow learners be grouped separately? (2) Shall the slow learners be "graded"? (3) How shall promotion be regulated? (4) How shall the work of groups be organized?

The first three questions are, of course, closely related; they deal with different aspects of a single problem. The relationship of the first two is clear: all the pupils in any school are grouped, or classified, or "graded" on two different "axes." One of these is vertical—first grade, second grade, third grade, and so on. The other axis is horizontal; any "grade" or age group may be subdivided or "subgraded" in various ways, the commonest being, of course, rapid learners, average learners, and slow learners. Grouping and regrouping within any horizontal group—grade group or age group—for various instructional purposes is a normal part of everyday classroom procedure. Reading groups, special interest groups, committees, and the like are formed from time to time, depending on the needs and interests of individuals and the nature of the various activities being carried on in a classroom. Such groups are formed when needed and dissolved when they have served their purpose. What is being considered here, however, is a more or less permanent arrangement in which children of defined needs or characteristics are grouped together for substantially all of their work. Specifically the question is whether slow learners shall be more or less permanently grouped by themselves in separate

classrooms, or whether they shall be mixed in with other children of about the same age and size on a more or less random basis. But whether they are grouped separately or not, there still remains the problem of how best to group on the vertical axis—whether by grade or age, or in some other way.

SHALL THE SLOW LEARNERS BE GROUPED SEPARATELY?

There is much to be said both for and against separate grouping, but the significance of what might be said varies from school to school. It should be perfectly clear from Chapter I that there is no possibility of organizing a separate group of slow learners that will be homogeneous in more than a few respects. Nevertheless, there is some advantage, if it can be achieved, in having in a group a reasonable homogeneity beyond that of age. But whether this advantage is important enough to offset the possible disadvantages of separate grouping can be judged only on the basis of pertinent facts in a specific situation.

At least this much can be said. Mere separation without rather far-reaching reconstruction of the curriculum will accomplish little for the slow pupils. It may ease the teacher's work somewhat and possibly improve the situation for the remaining pupils in the school, but it will not in and of itself make the slow pupils' lives any easier. On the other hand, leaving the slow learners in mixed groups will not ease their burdens either or prevent experiences of inadequacy, feelings of inferiority, and the development of possible antisocial attitudes, unless the program in the mixed group is very flexible and adaptable to a wide range of needs and abilities. Even then there will be plenty of opportunity for odious comparisons to be made, for pupils to have their feelings hurt and to experience inadequacy and inferiority. The other pupils will see to that, even if the teacher does not. With the most careful management, there will still remain enough good and enough bad in either plan for caution against dogmatic conclusions.

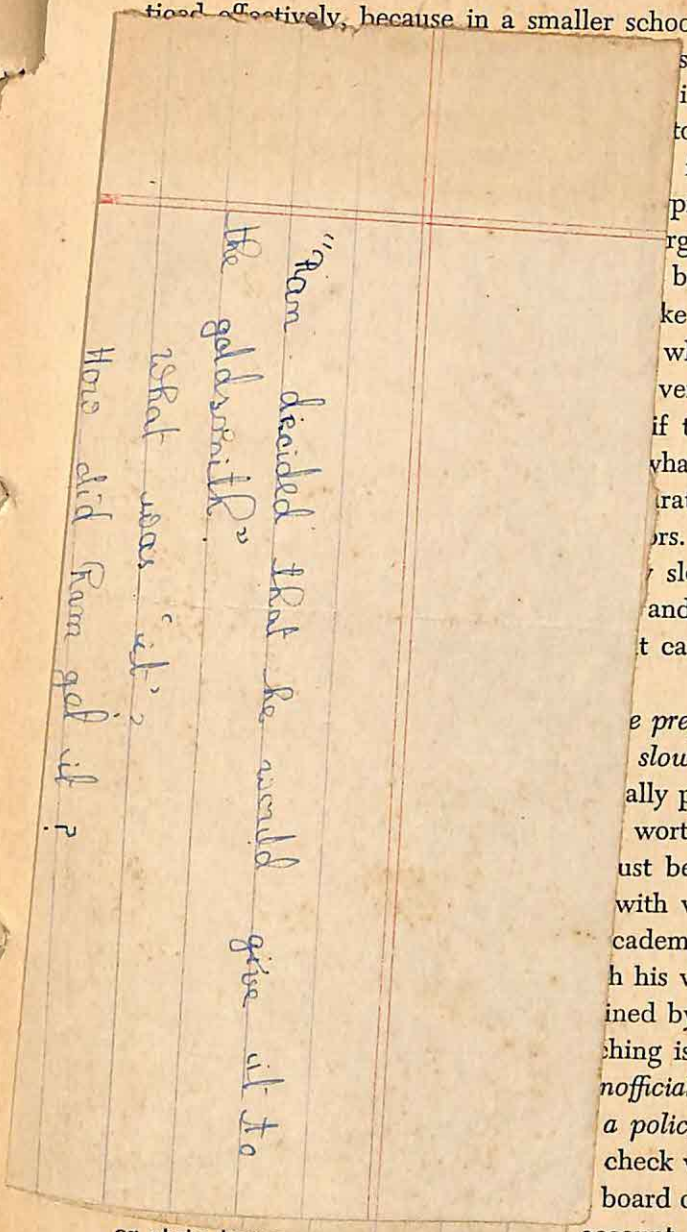
In the final analysis, each school must size up its total situation and decide for itself what to do. In sizing up the total situation, and weighing the advantages and disadvantages of separate grouping, a number of questions must be asked. One group of questions raises points of difficulty in using separate grouping; another raises points of difficulty in not using it.

Critical Points in Using Separate Grouping

1. *Do the principles of democracy preclude separate groups in spite of other considerations?* Whether or not they do in fact, if the teachers and parents who are concerned believe they do, they do. Democracy, in the best sense, implies an opportunity for each individual to make the most of his capabilities and to enjoy the best advantages his community can provide for that purpose. There can be no valid objection, therefore, to separate grouping, provided, of course, it is followed by provision of the right kinds of opportunities. Equal opportunity does not mean identical opportunity or that everyone should do the same things. Forcing slow pupils to attempt things they cannot do is quite as undemocratic as forcing bright pupils to endure the boredom of aimless repetition of things they already know, or denying them the opportunity to try their wits in many fields forever closed to the slower pupils. One should not be dissuaded from using a procedure that seems on the whole to have much to recommend it if the only ground for rejecting it is a narrow or doctrinaire notion of democracy.

2. *Can you group separately even if you wish to?* Greater homogeneity for the more intellectual enterprises of the school will be gained by grouping the slow learners together. But if one wishes also to preserve a reasonable homogeneity in age, there must be in the school a rather large number of pupils of any particular age group. If the school population is reasonably typical, about one pupil in five will be a slow learner. In order to maintain an enrollment in each group of slow learners of, say, twenty-five to thirty, there must be at least 125 to 150 pupils in each age group. A six-year elementary school, then, would need to have a minimum enrollment of 750 to 900 pupils before separate grouping with any very substantial degree of homogeneity in both age and ability is feasible.

Most teachers, however, are already accustomed to teaching groups with an age span of two years, even in mixed classes, without any great difficulty from factors associated purely with ageness. There would seem to be no substantial reason why an age span of two years cannot be managed about as well in a group of slow learners as in any other group. If the wholly unnecessary complication of gradeness can be eliminated, separate groupings of slow learners are feasible in a school with an enrollment as small as 400 or 500. This is probably the minimum sized school in which separate grouping can be prac-



tized effectively, because in a smaller school efforts to secure homo-
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hing is an unpleasant duty.
nofficial and general commun-
a policy of separate grouping
check with the proper author-
board of education regulations
or state law that ... account. Community sentiment is much more difficult to ascertain than official regulations, but it is no less important to know it in matters of this sort. There is probably not enough to be gained from separate grouping to warrant proceeding in the absence of wholehearted community support. A theoreti-

cally good idea that the community does not like is still a bad idea to all intents and purposes.

5. *Can you reasonably avoid the risks of exaggerating the importance of slow-learningness as well as the tendency of separate classes to become catchalls for all kinds of misfits?* This is one of the hardest questions to answer conclusively because the factors involved are intangible and difficult to control. Slow pupils in mixed classes have ample opportunity to have their slowness pointed out to them by other pupils, if not by their teachers. However, the significance slow pupils attach to their relative ability is often exaggerated when public notice is taken of it, and it is made the basis of grouping or other arrangements. If much competition and rivalry and striving for high marks constitute the prevailing climate of opinion in the school, brighter pupils will almost inevitably look down on slower ones and take advantage of every opportunity to increase their own self-regard and display superiority. Teachers, too, sometimes contribute to the bad odor of the situation by thoughtless remarks, and even by using threats of transfer to a slow class as a means of motivating their pupils.

By assessing the situation already prevailing in mixed classes, it is possible to get a pretty good idea of what the general situation will be if slow pupils are grouped separately. If the slow pupils are already having a difficult time, being called "dumb bunnies," "dim wits," or "blockheads" by other pupils or by some teachers, being left out of things generally both in their classes and in the general affairs of the school and playground, while the brighter pupils have things much their own way, one can be certain that the situation will not be improved, at least in the beginning, by grouping the slow pupils in separate classes. It would be far better to improve the situation in the mixed classes before resorting to separate grouping. If this is not generally feasible, separate grouping may, after all, be the best answer. A slow pupil who can achieve some success, accomplish something that is acceptable, and be respected by his colleagues at least part of the time, is probably better off than he would be in a situation where he is always at the bottom of the list in everyone's estimate.

It is well to remember, too, that in spite of the best intentions separate classes for slow learners are very likely to become dumping grounds for every kind of misfit. In the final analysis, decisions regarding the desirability of placing any particular pupil in such a class must rest largely on many subjective factors where the teacher's judg-

ment is the only reliable guide. There are, then, numerous opportunities for the wrong decision to be made. Even when the teacher is unbiased and unprejudiced it is difficult enough to be certain whether maladjustment is due to lack of ability rather than to other factors. It is all the more difficult to be objective and unbiased when a pupil has a long-standing reputation for misbehavior, lack of effort, and general nonconformity to expectations. Before any decision is made regarding separate grouping it is advisable to review the teacher's estimates in the light of objective facts. "Lack of ability" is the cardinal reason given by most teachers for pupil maladjustment. If the teachers in a school show an overgenerous use of that phrase in sizing up the pupils in their classes, or if there is a marked discrepancy between their estimates and objective facts, one can be reasonably sure that many pupils will be recommended for the slow-learning classes who do not belong there.

Critical Points in Not Grouping Separately

It is undoubtedly easier to organize and manage a school without separated classes for ability groups. The size of the school is then immaterial, provided each age group contains reasonably even multiples of a standard class size. The routine work of classifying pupils, assigning sections, and keeping records is not so burdensome, and shifting of pupils from one section to another in terms of where they can work to best advantage is much easier. No scheme of naming, lettering, or numbering sections is ingenious enough to prevent pupils or their parents from learning what they mean. If one deliberately chooses to group pupils by ability, he must accept as a matter of course that the pupils will know the meaning and significance of the various groups. Any other assumption is sheer self-delusion. Even if a school feels fairly certain that it can reasonably prevent exaggeration of the unfavorable features of the separated class, still, for the sake of administrative ease and convenience, it should not adopt the scheme without considering the following questions.

1. *Is it possible to make the kinds of adjustments that are needed if slow pupils are to be well provided for in mixed classes?* In considering this question, one may well ask further: Are the teachers skilled in conducting activities that provide for a wide range of interests and abilities? Can they manage the activities so as to provide for every pupil some significant and necessary part in the total enter-

prise? Are they able to help pupils devise and carry on individual and small-group activities reflecting wide ranges of ability and interest?

2. *Are the teachers willing and able to accept at face value a different kind and quality of participation from different pupils, or must all pupils be held to about the same standards of performance?* Can the teacher employ different standards of achievement without some pupils feeling that they are being held to them too much while others are getting off too easy, or without some pupils feeling that they are "putting it over" on the teacher?

3. *Is the school as a whole, or the individual teacher, able to devise and manage a scheme of controlling promotion and progress and of making reports to parents that avoids exaggerated competition and persistent failure for the slow learner?* It is highly important that the slow learner be accorded indications of success in relation to his own potential for success. Continued competition with more competent pupils and repeated failure will only discourage him and cause him to reduce his efforts. It is necessary, therefore, that there be a feasible scheme if slow learners are kept in regular classes.

4. *Are the special materials and other resources essential for slow learners available in sufficient quantity to permit using them in many classes?* This question applies particularly to films, pictures, objects, and the like that are used with groups. If every class can have all of these materials that it wants, or all that the slow learners need, then there is no reason on this score alone for separate grouping. If the supply is limited, however, the maximum use of available resources will be obtained by grouping the slow learners in separate classes.

5. *Can activities outside the school be arranged for all pupils as frequently as is necessary for the slow learner?* The same considerations hold here as for the previous question. If every class can go on an excursion when it needs to, there is no reason on this score for separate grouping. But if for lack of places to go (without becoming a nuisance) or lack of means of travel such opportunities are restricted, the greatest advantage for the slow learners can be had by grouping them together in separate classes.

If the problems mentioned and implied in the foregoing questions can be solved fairly satisfactorily in mixed classes, there is little reason for going to the extra work involved in separate grouping. If, on the other hand, most of them can be solved rather better or more easily

in separated classes, a mere matter of administrative convenience should not stand in the way. In any case, separate grouping is not imperative. Slow learners can be taught effectively in mixed classes, provided a school is willing and able to make the necessary adjustments to the slow learner's capacities. The suggestions which are offered in subsequent chapters are intended for the teachers of mixed classes quite as much as for the teachers of separated classes.

SHALL THE SLOW LEARNERS BE "GRADED"?

It is obvious that one cannot answer this question successfully without taking into consideration the whole school situation. It is extremely difficult to organize and manage a school that endeavors to follow one scheme of vertical grouping, or "grading," for some pupils and another scheme for other pupils. It is, of course, somewhat easier administratively to use different procedures in vertical grouping with different groups if the policy of separate grouping on the horizontal axis is employed, but one must also look out for difficulties of another sort. A school tends to operate as a unit in its influence on pupils. Few if any pupils are too stupid to be unaware of the policies that control the school as a whole, and few are so insensitive as to be indifferent to real or imagined discrimination involved in special policies.

Any scheme for grading pupils and regulating their progress, whether they are grouped separately or not, must do three things: (1) It must maintain reasonably congenial and reasonably permanent working groups of pupils; (2) it must provide for orderly progress through school; (3) it must bring the pupils to the termination of their elementary education at not later than thirteen or fourteen years of age. Normally pupils should be promoted to the junior high school at this age, but even where part or all of the usual junior high school grades are included in the elementary school organization the pupils should be ready for the seventh grade at about thirteen or fourteen.

With respect to the first requirement, let it be said categorically that "congeniality" of working groups of pupils cannot be achieved by holding to the narrow or conventional notion of "grade" as a basis of grouping. All efforts so to grade invariably produce great variations in age and in all the other factors associated with it. The reason is chiefly the inescapable necessity of using acceleration and retardation for adjusting the pupils to predetermined standards. One could, however, accept considerable variation in age, size, and general maturity

if grading really accomplished its ostensible purpose of producing uniform attainments by the groups of pupils. Unfortunately, grading seldom if ever accomplishes this purpose. Usually the more heterogeneous a group of pupils as to age, size, and general development, the more heterogeneous they are in actual educational attainments. Grading defeats its own purpose and precludes the possibility of maintaining congenial working groups of pupils.

It is largely for such reasons as these that many educators advocate abandoning grade classifications entirely, and recommend basing the organization of classes and the regulation of process chiefly on age. Some such alternative must be adopted, or the concept of "grade" must become a very flexible and general concept, capable of being applied validly to the educational status of children of widely differing abilities and attainments. If a school decides to retain some concept of grade in its scheme of organizing classes and regulating progress, it must be willing either to employ the term loosely or to accept the problems and defeats that inevitably result from any effort to make all children conform to a single pattern.

Whatever scheme of vertical classification is used, it seems advisable to preserve reasonable homogeneity of age in the pupil groups. This holds whether the slow learners are grouped separately or not. Age seems to be a better all-round index of development, need, interest, and readiness for group activity than any other major factor. True, a random group of ten-year-olds may range in ability all the way from 75 to 150 I.Q., in reading ability from zero to the high school level, and the like, but its members will still have more in common than a group composed entirely of pupils of 100 I.Q. and ranging in age from eight to fifteen. It is the exception rather than the rule that such diverse ages can be taught successfully as a group. Inevitably they break up into many little groups, and the possibility of satisfactory whole-group activity is precluded. The older and larger pupils feel out of place and ill at ease with younger children.

It is impossible on the basis of present knowledge to say what range of ages in a group is most effective. Perhaps much depends on the nature of the activity carried on. However, present evidence indicates that a fairly narrow age range is desirable, normally two years, and certainly not more than three. This holds for average and bright children as well as for slow ones.

HOW SHALL PROMOTION BE REGULATED?

The question may be asked: If the pupils are to be grouped chiefly by age rather than by grade, what becomes of promotion? In the usual sense of the word it disappears. But the necessity of regrouping pupils from time to time will remain. Even though congenial and effective working groups are established early in school life—separated or not—pupils become more variable as they grow older. A pupil may be entirely "at home" in a particular group when he is seven, and lose that "at homeness" by the time he is ten or eleven. He may need to be transferred to a slightly younger or a slightly older group, or to a group of the same age with a different "tempo" or interest.

Such transfers should be made unostentatiously, and whenever the circumstances require rather than at stated intervals. The aim should be to maintain the best social setting for the individual pupil—to keep him with a group where he can work to best advantage. Ordinarily, similarity of age will be the best predictive factor, but other factors must be taken into account. If most of a pupil's out-of-school or playground friends and associates are in another in-school group, or if his pal or the pupil he most admires (or even the teacher he most admires) is in that other group, he usually will feel more at home, more secure, more congenial, and more interested in the other group. The question should be: Is this the best group for the pupil? rather than: Has he met the requirements for promotion to this group?

As with all pupils, one should keep in mind, too, that reasonable stability and permanence in the group life of slow learners are desirable. A group of pupils should maintain its identity to a considerable degree throughout the elementary school period and it should retain its teacher for a period of at least a full year. The motility of the population and numerous transfers from school to school may of course play hob with even the best of intentions, but every effort should be made to have the factors that can be controlled contribute to stability and permanence in the pupil groupings.

Passing along the thirteen- or fourteen-year-olds to the secondary schools may of course create problems for these schools. Many of them would like to have all the pupils retained in the elementary school until they have learned to read at least up to seventh grade standard. Nevertheless, the thirteen- and fourteen-year-olds belong in the secondary school. Experience indicates that they seldom profit

from being left in the elementary school much beyond that age. Furthermore, because of age and size, they create problems for the elementary school that it is not equipped to solve nor properly responsible for solving. If the elementary school does as good a job as can reasonably be expected, all circumstances considered, it need make no apologies for passing on its thirteen- and fourteen-year-olds to the junior high school whether they are slow or rapid learners.

Some may ask: "If there is to be no promotion or non-promotion, how can we get the pupils to work?" If the only effective incentive to "work" is anticipation of promotion to some superior status, or fear of non-promotion, there is grave doubt whether the pupil should be expected to do the work which he is being required to do. But the positive answer to the question is a long story; it will be the theme of subsequent chapters of this book.

Putting into effect such a policy of classification and progress of pupils as is recommended in the foregoing pages requires numerous readjustments and temporary compromises. It is best to begin with an incoming group of pupils—those who are coming in from kindergarten or coming to school for the first time. And until a whole elementary school generation of pupils has gone through on such a basis, there will be more or less confusion in the minds of pupils and their parents. Nevertheless, this more flexible, informal, and natural kind of grouping and regrouping is the only effective way of managing a school so as to meet the needs of diverse groups of pupils.

Two other matters relating to organization require brief attention. Whether the slow learners are grouped separately or not, the general arrangements within the classroom must be the kind most suitable for them. Moreover, the slow learners must be enabled to take part in those general activities in which all pupils normally participate by virtue of their membership in the school.

HOW SHALL THE WORK OF CLASSROOM GROUPS BE ORGANIZED?

The Homeroom Unit

The school life of the pupils as a whole should be organized on a homeroom basis; that is, the pupils should have a residence in the school—a working, living, guidance room in which much of their activity is carried on. They may of course go to other special-purpose

rooms, and many of their experiences may take place entirely outside the school, but the homeroom is where they live and have their belongings. It should, of course, be an attractive room, at least as attractive as those provided for other pupils—clean, light, warm, and well-decorated. It should be a large room, large enough to provide uncrowded seating for all at tables or in movable seats with extra space for work tables, apparatus, models, exhibits, flowers, pets, bookcases, a filing and storage cabinet, and the other equipment that is commonly provided for an active school. A motion picture and slide projector should be available, with a suitable screen and, of course, suitable service outlets. There should be a radio in the room and, if possible, a piano, or at least one should be available on the floor. There should be bulletin boards and tack strips above the blackboards.

The group should be in charge of a homeroom teacher all the time. The homeroom teacher will not necessarily give all instruction or be the only person with whom the pupils come in contact, but he is in charge; he is the chairman of the group, responsible for them and to them in planning all phases of their work. All specialists who work with the children should either work under the direct supervision of the homeroom teacher or in terms of plans made with and approved by him. Compartmentalized instruction based upon compartmentalized and uncoordinated planning has no place in the program of slow learners. Furthermore, the number of specialists who work with the pupils should be kept at the minimum compatible with a reasonably well-rounded and adequate program. It is better for the homeroom teacher to carry most of the instruction and guidance, even though he is not expert in some lines, than for the pupils to be running hither and yon, intellectually and emotionally if not spatially, to several different teachers. Stability and continuity in teacher-pupil relations are highly desirable for all pupils of elementary school age; they are imperative for the slow-learning ones.

Participation in School-Wide Activities

The slow pupils, particularly when placed in a separate homeroom unit, should be as much a part of the whole school as any other group. They should participate on the level of their interest and ability in all the school-wide enterprises, the assemblies, the newspapers, the safety patrol, the intramural games and sports, the campaigns, and the like. Many schools tend to neglect the slower pupils or to restrict their

participation. Sometimes this is done on the assumption that such participation should be a privilege based on high scholastic achievement. More often it is done so that the school-wide activities may be as efficient and "finished" as possible. The only criteria for participation in school-wide activities should be that the pupils are interested and that they make a sincere and cooperative effort commensurate with their ability. If a school newspaper is thought to be good for the bright pupils, it is doubly good for the slow-learning ones—not so good for the newspaper, perhaps, but good for the pupils.

SUMMARY

The problems of organizing for teaching the slow learner cannot be answered categorically. A sound solution depends greatly on the individual situation. Given certain traditions, teachers, and school organizations, one approach may be desirable, but in another school with different conditions another procedure may secure best results.

Separate grouping of slow learners involves many disadvantages and the practice should be adopted only if existing conditions make it impossible to meet the needs of slow pupils in mixed classes. Regardless of whether or not separate grouping is used, special consideration should be given to the progress of slow learners. They should not be forced continually to seek higher achievement than their ability makes reasonably possible nor should they be non-promoted when they achieve up to the levels which may be expected of them. Reasonable growth and development will be fostered best by homeroom organizations in which the continued guidance and interest of a single teacher are provided. This is important for all pupils, but especially important for the slow learner.

Additional help in solving the problem discussed in this chapter will be found in the following books:

Elsbree, Willard S. *Pupil Progress in the Elementary School.* New York: Bureau of Publications, Teachers College, Columbia University, 1943.

Corey, S. M. and others. "Grouping Children: A Discussion." *Educational Leadership,* Vol. 4, pp. 365-373, March 1947.

Fostering Mental Health in Our Schools. 1950 Yearbook, Association for Supervision and Curriculum Development. Chapter 13. The Association, 1950.

CHAPTER IV

How to Guide the Activities of Slow Learners

THE characteristics and needs of slow learners are seen most clearly by comparing them with the characteristics and needs of the general run of children. It is quite natural and reasonable, therefore, to think about the curriculum for slow learners in terms of how it should be different from, or similar to, the curriculum for average pupils. There are, of course, some dangers in this, for the prevailing instructional practices in many schools are not very satisfactory even for average or rapid-learning children. Fortunately, however, many teachers "know" better than they "do," and aspire to higher goals than they are able to reach. If these higher goals are kept in mind, it will be reasonably safe to take one's guidance in large part from the kind of curriculum and teaching practices that are desirable for average pupils.

GOALS AND OBJECTIVES

It will be clear from Chapters I and II that goals and objectives suggesting specific habits, skills, or knowledges one may reasonably expect at a particular age are necessarily different for different groups of pupils. One can, for example, expect most average children at the age of six to develop quickly readiness for reading, but one cannot expect this from slow-learning children unless they have had a very rich experience in nursery school and kindergarten. One can reasonably expect that most average children will be able during the fourth year in school to solve quickly and accurately a simple problem in arithmetic involving the use of two or three fundamental processes with whole numbers, but such problems are too complex for slow-learners.

No list can possibly be made of all the specific goals of this sort that slow-learning children may reasonably be expected to attain at different age levels. There are far too many such goals. One might list a hundred representative and significant goals and still overlook some very important ones. One might list a thousand such specific goals, representing a more detailed and piecemeal analysis of the total curriculum, but this would be hazardous. Very little is known in any comprehensive way about what constitutes reasonable expectations even for average children in more than a few rather conventional skills, and there is even less basis for setting specific goals in advance for slower children.

More important, however, is this consideration: planning instruction in terms of very detailed goals tends inevitably to foster the notion that learning is purely a matter of specifics, of adding up piecemeal items of knowledge and skill with the expectation that the sum total will represent a unified and effective pattern of behavior. Such a happy result seldom occurs even with very bright children, and almost never with slow-learning ones. Good learning always proceeds by the continual growth, enrichment, reconstruction, and refinement of previously existing patterns of behavior right from the beginning. Learning is cumulative, not additive. Specific goals, attainment of specific abilities or acquirement of items of knowledge, can be regarded at best only as partial evidence of how the total design of a pupil's experience is unfolding. The important thing to know is whether the children can make effective use of facts and skills in solving problems, thinking critically, and dealing with new situations. Some suggestions are made in Chapter V concerning the use of the school tests in relation to goals defined in terms of specific abilities, and the interpretations to be made of the kinds of growth measured by such tests, particularly in reading and arithmetic.

In contrast to goals and objectives of the more quantitative type, those that suggest primarily qualities of behavior or traits, attitudes, and dispositions that all the members of a democratic community must possess in some degree should be the same for all children, regardless of ability. Any good formulation of such goals, such as the one by the Educational Policies Commission [1] of the National Education As-

[1] Educational Policies Commission, *The Purposes of Education in American Democracy*. Washington, D. C.: National Education Association and the American Association of School Administrators, 1938.

sociation, entitled *The Purposes of Education in American Democracy,* can be used by teachers of slow learners as a guide quite as readily and as validly as by teachers of other pupils. It is not an easy matter, of course, to state precisely what degree or standard of behavior one may expect at any given age, or to find out whether pupils are actually growing in the direction of these qualitative goals, but the task is no more difficult for teachers of slow-learning pupils than it is for others. Nevertheless, it will be helpful to point out some of the special interpretations of objectives a teacher of slow learners will need to follow with respect to the major types of "competences" the curriculum should cultivate.[2]

Health

Health problems are often acute among a slow-learning group, since slow learners tend to come from economically less favored homes, where physical conditions and parental competence in care of health are likely to be low, as is ability to provide adequate medical care. Physical defects must be remedied in so far as the school is able to do so, alone or in cooperation with other agencies. Activities leading to adequate and sound physical growth must be undertaken, as with all other pupils. Habits of healthful living need to be developed, as well as knowledge of how to take care of one's self and how and where to obtain medical care.

One cannot expect to accomplish much, however, in these matters by giving instruction in health principles and practices in general. Nor can one expect much "transfer of training" from studies of the diet and health of guinea pigs or white rats. Reliance must rather be placed on direct and specific information about the health and dietary needs of boys and girls and on common-sense rules of health. Above all, there must be consistent and plentiful practice of health habits in the school itself. It is a waste of time and effort to give health instruction to slow learners in a school which has poor light and ventilation, inadequate toilet and washing facilities, or meager facilities for active exercise, relaxation, and rest. Only a little by way of precept but a good deal by way of example (with practice) should be the guiding principles here as in all other aspects of the curriculum.

[2] Helpful suggestions on ways and means of getting the necessary information on which to appraise pupils' growth in these competences may be obtained from Clay C. Ross, *Measurement in Today's Schools* (Revised Edition). New York: Prentice-Hall, Inc., 1947.

Mental health is also important. The slow-learning child has usually experienced more than his share of the consequences of failure to do what was expected of him, and therefore the problem of his mental health should be of particular concern to the school. Growth in physical development and in interests often outruns growth in ability to perceive and understand. This frequently tends to isolate the slow learner from others of his own age. More than the average child, he needs to be given a chance to succeed, to experience a feeling of competence in some field, to "belong," and to develop emotional control.

Vocation

While specific occupational training is not a primary responsibility of the elementary school, most of the general attitudes and habits which make for vocational efficiency and ability to succeed on a job must be cultivated continuously in the elementary school—thoroughness, neatness, promptness, willingness to take orders from persons in authority and to carry them out and to go beyond specific directions when the occasion demands, ability to get along with other people personally and to work with them. It is important to remember that most people who lose their jobs do so not because of their lack of the specific competences required on the job, but because of their inability to work with other people and their lack of a sense of responsibility. As the pupil grows older he needs definite vocational guidance. Specific training for an occupation in which there is reasonable expectation of employment should be provided before the pupil is permitted to go from the school into vocational life. Where such training cannot be provided directly under the auspices of the school, cooperative arrangements can often be made with employers for an apprenticeship type of training in which the school and the employer both participate in the guidance and instruction of the individual trainee.

Here the teacher needs to be realistic because the slow learner himself is often anything but realistic in his outlook on the world of work. He is especially prone to overestimate his capacities and to set his goals far higher than he can possibly achieve. The general climate of opinion in most schools and most communities tends to overvalue white-collar, highly skilled, spectacular, and "thrilling" work; the slow learner is notoriously susceptible to such romanticisms; so are his parents, who naturally wish their children to "get ahead" in the world. Helping the slow learner to aspire to attainable vocational goals is

one of the most difficult of the teacher's tasks, and one of the most important. It cannot be discharged by giving the pupil experience, first-hand or otherwise, with only the "respectable" occupations. Familiarity with the work of the bus boy, the machine operator, the waitress, and the gardener should take precedence over familiarity with the work of the air pilot, the secretary, the nurse, and the doctor. This does not mean, of course, that no time should be spent in the occupational studies on the work of the doctor, the teacher, or the engineer. Quite the contrary. Honest and realistic information about what it takes to be a doctor, a teacher, or an engineer is extremely valuable in helping the slow learner come to an honest and realistic appreciation of himself, as well as in helping him understand other people and the world generally. The point to keep constantly in mind is that these "status" occupations should not crowd out the other equally necessary and equally respectable ones.

Home and Family

Much training in home and family life is provided indirectly through cultivation of habits of neatness, responsibleness, and thrift in carrying on the work of the classroom, and by working cooperatively with the rest of the group. Direct training is none the less important. Since many slow learners come from homes of less than average competence in homemaking, development of skills by boys and girls in home maintenance, care of children, "consumer education," and family budgeting is desirable for their present and future values.

In this area, as in the area of vocational guidance, one must be realistic. Instruction in homemaking, even in elementary schools, is often gauged to a level of present and probable future income, and to intellectual and cultural interests and resources quite beyond the slow learner. Here one should bear in mind that it is much easier to raise one's standard of living, when circumstances permit, to an ideal inculcated in school after one has learned to make the most of a meager income than it is to lower one's requirements from an ideal inculcated in school to the realities of one's personal and family circumstances.

Personal Development

In this area, one must guard against the tendency to overemphasize reading and similar "cultural" pursuits as worthy ways to spend leisure time and "improve one's mind." Overemphasis on such matters, com-

bined with much neglect in the past of other avenues of personal development, accounts for the fact that the slow learner often follows the path of least resistance and spends his free time in more or less aimless physical activity or in "just hanging around." Moreover, one must bear in mind that the economic resources of his family often do not provide him with the necessary opportunities for any kind of wholesome personal growth and development. His amusements will at best consist largely of those providing physical activity, of games with others of his own age requiring little intellectual skill, or in being amused by the movies, radio, or television. Considerable enrichment of his life, however, can be provided by the school through development of constructional and creative abilities based on manual activity. The slow learner can and should also become acquainted with the various recreational and personal development resources his community offers, and he should be encouraged and assisted in developing some understanding and appreciation of the fine and practical arts, and music. Many slow learners can acquire creditable skill in at least one or more of these and most can learn to be intelligent "consumers" of the arts.

There is a place in the curriculum of the slow learner, as in that of the more intellectually gifted, for a certain amount of information for information's sake—information that "everybody knows," that facilitates social relations and gives one a sense of status and belonging—some familiarity with the social and cultural heritage and traditions, the natural environment, and knowledge concerning the how and why of many man-made things about him beyond the bare minimum demanded for getting along in the world. It must be recognized that most persons possess a great deal of information which has little apparent value beyond being "nice to know," but which nevertheless gives one a sense of being "in the know" along with the rest of mankind, and a feeling of continuity and connection with the past as well as the present. Much of it, too, serves the useful purpose of satisfying a natural craving to know how the world is put together and what makes it go. But while admitting that there is a place for such information in the curriculum of slow learners, one must be very careful to keep the matter strictly under control. Such an admission can easily turn out to be a camel's nose in the tent, and lead one into the indefensible practice of cramming the heads of slow-learning pupils full

of useless facts on the ground that every child has a "right" to such knowledge.

The best safeguard in this matter is to place one's emphasis chiefly on the kinds of knowledge that have demonstrated value in improving the everyday living of the pupils, adjusting one's own goals as a teacher to the goals of ordinary people in ordinary circumstances. After all, the only knowledge that will stick for any length of time with the slow learner is knowledge that can quickly be put to use.

Social Competence

A democratic community will, when the slow-learner reaches maturity, give his judgment of the most complex social-economic problems equal weight with that of the intellectually more fortunate citizen. Since his formal education will often not continue beyond the legal minimum, and since he is not likely to put forth much effort afterwards to continue his own education in this area, some understanding of the nature of social and governmental relationships must be cultivated before the slow learner leaves school. The more elementary interrelationships within his community and between his community and the rest of the nation and the world need to be pointed out through discussion of matters reasonably familiar to him. Similarly, his responsibilities to the government and those of the government to him need to be realized so that he may become a loyal and effective citizen, with due respect for law and order. Furthermore, since he will have financial and other economic relationships with others, regardless of his intellectual level, a modicum of competence in this field should be developed. Before he leaves school he should understand the nature of the simpler fundamental financial transactions. Such knowledge can be built up, however, only through continuous experience with such matters throughout his school years.

Here it is well to reiterate a point made earlier. The slow learner is rather susceptible to slogans and catchwords, easily confused by propaganda and advertising, and inclined to do whatever is being done by that group to which he aspires to "belong." It is imperative, therefore, that great care be taken to analyze some of the common techniques by which consent or conformity is procured. One must build up the slow learner's defenses against propaganda and the "tyranny of words" by much analysis of specific cases. Little is accomplished by dealing in generalities.

Foundational Skills and Abilities

Regardless of intellectual level, there are a number of foundational skills and abilities every child needs to develop cumulatively throughout his school experience. Reading ability should be cultivated at least to the point where newspapers, popular magazines, and the simpler popular books can be read and understood. Language usage, both oral and written, should be developed at least to the point where a simple conversation can be carried on, simple letters can be written, and common forms and reports such as are required in industry and business can be prepared intelligently. The simple mathematics of everyday life must be mastered. The problems encountered in teaching the slow pupil to read and to manage numbers with reasonable facility often weigh more heavily on the teacher of slow learners than do many other problems. For this reason, Chapter V is devoted to a discussion of teaching these "fundamental processes."

QUALITY OF EXPERIENCE

The curriculum experiences of slow-learning pupils and average pupils should also be examined for similarities and differences in general quality and meaningfulness. The school activities of all children should, of course, be vital and meaningful; they must center around dominant purposes or interests which are understood and accepted by the pupils themselves. The content of these experiences, that is, the subject matter, must possess characteristics which enable the pupil to tie it into past experience readily; otherwise he will be unable to "respond with meaning" to ideas he encounters in books, or to any life situation he encounters for the first time.

Meaningful experiences for average and bright children often may center around purposes, interests, and problems which are relatively removed from the objective or sensory features of their day-by-day living. Such children are more imaginative, more concerned with the qualitative aspects of living, and capable of profiting a great deal from reported and second-hand experience. With slow learners this is much less likely to be the case. For them there must be greater similarity between what they do in school and what they do or see other people doing outside school. The connection between school and non-school living and learning must be more obvious and substantial. With slow learners, one must be especially critical and realistic in applying the

principle that the activities and enterprises of the school should be carried on in a natural setting dealing with real problems, real interests, and real activities of actual people in a reasonably familiar environment. Planning and carrying out an excursion to observe and study various geographical features of the community, an industrial plant, or some other aspect of the life and activity of real people will be a good deal more meaningful and purposeful than taking an imagined or vicarious journey through the world of books and pictures. This would often be the case with average and brighter children, although the pretended or "as if" kind of activity often suffices to give brighter children a semblance of intrinsic purposefulness, and to summarize and unify their experiences. With slower children, however, such enterprises are less attractive and interest-sustaining and more likely to have only a very tenuous reality at best; at worst they lead to mere verbalizing.

Goals Must Be Immediate and Tangible

An obvious corollary of the foregoing is that the returns to be had from an activity must be more immediate and tangible. The activity that counts now, that satisfies rather quickly a present need or interest or curiosity, that helps to solve a pressing problem, should be preferred to the activity that depends upon remote, deferred, and very general values for its meaning. To be sure, activities must be chosen with an eye to their ultimate, cumulative, and general values as well as their immediate values. This is true for all children, bright and slow, but with the slow learners one is forced to be much more certain that an activity "makes sense," seems reasonable, and has some value here and now.

Activities Must Be Concrete

What this all means in a word is that the curriculum activities of slow learners must be more *concrete* than is necessary for average pupils. What constitutes "concreteness" is of course dependent on many factors; a book, for example, may be very concrete for one pupil and very abstract for another. Nevertheless, in teaching slow learners there are two major rules which, if taken into account, constitute almost infallible guides. The first is that the experience must center in "tangible" things; the other is that they must be first-hand.

Experiences Should Center in "Tangible" Things. The first major rule

is: Build the pupil's experiences around, or on the basis of, things, processes, and activities that are real, actual, "phenomenal" in the pupil's environment—that can be seen, heard, touched, tasted, or smelled; build on the sensory and perceptual foundation rather than on the conceptual foundation. For example, trains, busses, planes, and boats are real, phenomenal, concrete, capable of being sensed and perceived by any pupil. A study starting from a consideration of the planes, trains, busses, and boats that one perceives *here and now*—where they go, how they operate, what they are for, and the like—will "make sense" with slow learners. Such a study can lead to some generalizations and abstractions. But transportation *per se* is an abstraction, a concept. It is not real or phenomenal in the pupil's environment (or in that of many adults, for that matter). A study starting with a consideration of transportation on the conceptual plane is likely to fail to "connect" with the actual evidences of transportation the pupil sees about him, and to leave him at the end in the world of words rather than in the world of realities.

Almost any environment (school plus out-of-school) is rich in concrete, tangible, phenomenal things, activities, and processes that can be used as the "generators" or "focal points" for meaningful, purposeful learning enterprises. In the following outline some of the more fruitful sources are suggested and examples are given under each source. Suggestions are added for developing suitable learning enterprises around a few of these leads. The suggested "focal points" are graded roughly on two levels—lower and upper. These terms mean that the items followed by "lower" are suitable for younger pupils—those from about six or seven to ten or eleven years of age, while those followed by "upper" are suitable for older pupils—those from about ten to thirteen or fourteen years of age. Because of the wide range and variety of interests and abilities in any age group, finer gradations are impracticable. The teacher of any group, separately grouped or not, graded or ungraded, must pick and choose from these suggestions, and from many other sources, so as to get a "good fit" for that group at a particular time, and avoid undesirable repetition or covering of the same ground.

SOURCES AND EXAMPLES OF SUITABLE "FOCAL POINTS" FOR ACTIVITIES

A. Tangible things, places, and people in the community in which interest is possibly already present, or in which interest might be rather easily developed. Some of these may be:

1. A nearby store and the things in it (lower).

   A downtown store, how it is run, and the things in it (upper).

   What things are found in the store; where they come from; how shipped; wholesale stores and warehouses supplying the store; the work of the salesmen or proprietor; keeping stock; making change, bills, etc.; how the store gets its trade.

   Topics, questions, or problems center about that particular store; what generalizations are drawn should be based largely on comparisons of that store with similar stores.

   Activity can include visits to that store, to the wholesale stores and warehouses supplying it, and perhaps to some shipping agencies, and possibly setting up a model or real store in the classroom where the language and computational activities involved in managing, selling, and advertising are carried out.

2. The postman and what he does (lower).

   The post office and how mail is handled (upper).

   Mail delivery in city; what goes on in the post office; understanding of map of city and locating places on map by address; where the letters in the post office go, and how they are carried—mail trains, planes, boats, etc.—their routes. How to write letters; addressing and mailing them. History of mail service and stamps, pony express, etc.

   Activities can include a trip to the post office or station, and construction of a "post office" in the schoolroom which will serve as mail center for the school. Letters can be written to other persons in the school, and mailed to pupils in other schools on an exchange plan.

3. The policeman and safety (lower).

   The police department and traffic safety (upper).

   The work of a policeman; of the police department. Why they are necessary. Safety—particularly traffic safety; traffic signs. Laws. What goes on in a traffic court, or (with older pupils) some other type and mailed to pupils in other schools on an exchange plan.

   Activities can include visits to and by policemen and trips to the police department or station and looking up and reading some laws. A school traffic patrol, if not already in existence, can be organized. A model intersection with traffic lights can be set up with streets laid out on the classroom floor. Traffic signs of various kinds can be made. Stories of policemen are suitable for various age levels, and may be read or written. The upper group can possibly visit a court in session, preferably a traffic court.

4. A doctor and his office or a clinic (lower and upper).

   A hospital and what goes on inside it (upper).

   A study of health based on the study of the work of a doctor or a study of a hospital. Why people have to go to doctors and how they can keep well without the doctor's help; physical examinations; eye tests and care; the dentist and care of teeth. Some ideas of how sick people are made well by doctors and in hospitals. Public health; clinics; superstition, and growth of medical knowledge; epidemics.

   Activities can include visits to a doctor's office and hospital. In both upper and lower groups, a "doctor's office" can be set up in the classroom where the work and advice of the doctor and dentist are simulated or dramatized. Posters, charts, etc., and scrapbooks relating to health can be made for the "office." Extensive reading material is available.

5. A garage and the automobiles in it (upper).

   The new cars for sale and the cars in for repairs; what goes into the making of the new car in the garage—manufacturing processes and shipping—raw materials and their transportation. The work of running a garage, selling, keeping stock, buying, billing. The work of a mechanic; what he needs to know. How autos run.

   Buying a new or secondhand car; installment buying; cost of operation; liability and insurance. Driving a car; traffic safety and laws. Use of road map. Other garages and kinds of cars; differences and similarities; meeting competition.

   Activities can center about a particular new car observed in a garage; and possibly about a model garage set up in the classroom or model automobiles built in class. Much work can center also about maps showing sources and flow of raw materials and finished products, and road maps; also about the language and occupational work in selling, managing, and advertising in a garage. Another subordinate center can be the assumed purchase of the new car—selecting, paying for it with cash or on time, buying insurance, cost of operation.

6. Airplanes; how they fly and where they go (lower and upper).

   Appearance of different types of planes; parts of a plane; how planes fly; operation of the airport; dispatching; navigation; weather; where these and other planes go and what they carry; history of airplanes.

   Activity can center about a local airport; about model planes built in the classroom; about maps and timetables; and about descriptive folders put out by airlines or other agencies describing the routes and destinations.

7. A farm; different farms; what a farm looks like and what people do on it (lower and upper).

   Lower: Daily life on a farm; farm products; farm animals; farm children; difference between farm and city life; the farm family as a cooperative unit.

   Upper: Same; and in addition, different types of farms, local and elsewhere; products and processes on them. What determines what a farmer raises; how plants grow and how improved varieties are developed. Farm equipment. Transportation and distribution of farm products, stressing modern improvements. Contrast farming of some earlier period with present. Soil conservation.

   Activities can center about a model farm constructed in the classroom, and about a school garden. Visits to a farm or several farms are desirable. Experimental growth of plants under varying conditions of water, light, soil, fertilizer, etc., and experiments showing growth of plant can well be included.

8. The city hall; who work there and what their jobs are (upper).

   What goes on inside the city hall. Some of the officials and departments and their work in detail. Tax rates and expenditures.

   Activities should include a trip to the city hall and to other parts of the city where municipal activities or projects are found, such as parks, maintenance, utilities (if public), police and fire departments, and health service. A picture map of the city or community can well be constructed, showing the points observed, and a printed detailed map utilized as a guide for study and location of places by address. As a result of this study a class government may be set up with elected officers, laws, meetings, etc., simulating the organization at city hall.

9. Knowing your school and helping to make it more attractive (lower and upper).

10. The public library or local branches (lower and upper).

B. Groups of the above activities, stressing interrelationships:

1. The trucks, busses, trains, airplanes, and boats that carry things and people to and from your city (transportation to and from your community), (lower and upper).

   Where they go; the part played by each; why the different modes of transportation; the competition between them; what makes them go; their forerunners, transportation in other lands.

   Activities should center about the actual trains, boats, etc., seen on class visits to the local passenger and freight depots, bus depots, truck

forwarding centers, airports, and piers and docks. Trips taken on trains, boats, etc., by members of the class or by others can be described; maps showing where they go can be examined and maps of routes and things hauled can be made. Travel pamphlets, timetables, rate schedules, tickets, pictures, etc., can be collected and used as a basis for activities. Innumerable opportunities for construction activities are presented—building of models, group construction project of trains, depots, and airports.

2. A predominant local industry; the raw materials and the products (interdependence), (upper).

   Where and how a prominent local industry gets its raw materials—what it ships in and what it buys locally; where and how it distributes its products; who uses the products. The workers in that industry; how they specialize and pool their efforts; the banks and other business organizations upon which that industry depends.

   Activity should center about visits to different places where that industry may be observed and about inquiries of persons engaged in the industry. Much of the work can be based on group discussions. The details of an industry may be somewhat familiar to the pupils although a realization of interdependence is often lacking.

3. The retail firms, wholesale firms, and industries of the community—the place of each and their interdependence (upper).

4. The telephones and the telegraph facilities, the mails and radio of the community (communication), (upper).

5. Your city and the farms around it, the dependence of each on the other (or of your farms and nearby cities), (upper).

6. Some modern appliances or inventions of popular appeal (refrigerators, radios, television, etc.); with and without comparisons; the effects of science and inventions (upper).

C. Current happenings or topics of discussion in the community in which children are interested or can become interested, or experiences of people known personally to these children or in whom there is considerable popular interest. Some of these may be:

1. An election; the issues, and how and why people vote (upper).

   Who is running for office; what the platforms are; what other issues are; how to decide between arguments and claims; deciding which way to vote; how to vote; how the election system operates. This may well lead into an investigation of local, state, or national government.

Activity can center about preparations for and conducting a class or school election on the same candidates or proposals. With intelligent choice at this election as the pupils' aim, the "issues" can be studied and discussed by using campaign literature, reports of speeches, radio programs, editorials, etc., and some attempt made to judge the soundness of the arguments. Voting can be by the same method as that followed at the polls on sample ballots or loaned practice voting machines. Out of this and the investigation of government can grow the organization of a class or school governing body similar in form to that of the local, state or national government.

2. A flood or water shortage which the community may have had recently or to which it is subject from time to time; relation of this to conservation of natural resources (upper).

   Topics can include investigation of sources of the community water supply and how it is distributed, why the community is subject to floods, or to water shortages, measures that might be taken to improve the supply or to protect against floods, meteorology, rain making, industrial and other uses of water.

   Activities can include trips to the watershed or to pumping and filtration stations, the building of miniature model hillsides and dams to study erosion and its control, the collection and study of insects harmful or beneficial to forest, farm, and garden; the preparation of maps showing the location of forests and parks, reservoirs and drainage control systems, investigation of local wild-life conservation and of local game laws. Much information can be secured from numerous films and pamphlets on conservation and allied topics produced by the United States Department of Agriculture.

3. A holiday; the event or the person celebrated (lower and upper).

4. Drives or campaigns of popular interest (lower and upper).

5. Travels from which people known to children have just returned (lower and upper).

6. Current popular heroes, local and national; the meaning of their accomplishments (lower and upper).

7. The work of persons in the community known to the pupils or in whose work they are interested—workers, proprietors, leaders (upper).

8. The construction of a new school—other construction projects (lower and upper).

9. A local strike; the leaders and issues (upper).

10. A recent movie of considerable interest at a local theater, or a popular radio program (lower and upper).

D. Things (or people) brought into the classroom or encountered in the general activities of the school which stimulate more than passing interest or in which such interest can be developed (lower or upper). Some of these may be:

1. Collections, pets, or other possessions brought in by children—stamps, shells, rocks, insects, pictures, animals.

   For example: insects. Insects or insect collections brought into the classroom; what they are, what they do; their importance, if any, to man; how they grow.

   Activity can center about insects brought into the classroom, or about some caterpillars observed in the classroom, until the emergence of the butterfly from the cocoon, or concurrent observations of development of different forms of life (frogs, plants, etc.), which can lead to generalizations about life and development. Naming these insects and finding out about their harmful or beneficial habits can prove of considerable interest, as can the search for new additions to an individual collection or to a collection contributed to by the entire class.

2. Moving pictures (nature study; social phenomena; foreign lands; regions, industries, and people of the United States; history; biography; ethical and moral situations; personal relationships).

   For example: *Colonial Children.* How children lived in the New England colonies, their homes, their daily life, their manners and their customs, as shown in the film and in supplementary material; how these ways of life were developed, and the differences between life and customs then and now; the cooperation between the individuals of the community in a relatively simple society.

   Activities growing out of the use of this film can include dramatizations prepared by pupils to supplement the film; decorating a corner of the classroom to resemble the room in the film; making model colonial houses, making costumes, pictures, utensils, etc., or making a broom as shown in the film. Reading material, pictures and other visual aids will furnish sources of information for investigation.

3. Material from other regions or countries, or something representing adequately a significant feature of the social and economic environment, brought in by the children themselves, by chance or by request of the teacher (costumes from other countries, antiques, or relics, cotton blossoms, wool).

4. Exhibits or displays already prepared and obtainable from a local distribution center or from many other sources, free or at low cost (coffee, health, coal, silk, foreign lands, different regions and cities

of the United States, large industries, nature collections, national parks).

5. Exhibits or displays prepared by the teacher.

6. Books on shelf or browsing table which appear to attract general interest.

7. Talks or stories by persons visiting the class.

E. Vocational interests and ambitions. Some focal points may be:

1. The problem of choosing and finding a job (upper).

This problem is usually of sufficient self-sustaining interest to most of the older children so that it can, in and of itself, serve as a tangible focal point for activity. Topics to be investigated can include "knowing yourself"—aptitude tests and other indications of directions of ability, interests, etc., finding out what kinds of work are available in the community and what the work is like, how to locate a job, how to apply for a job, how to keep a job.

Activities can include the taking of tests, using self-inventories, talks by and discussions with employers and employing officers, and reading vocational information material.

2. Other schools, especially trade or vocational, and other ways of obtaining vocational training (upper).

3. An occupation or industry of interest to the group (or, as an individual project, of interest to an individual), (upper).

4. Making and living in a home; the work of a housewife—cooking, entertaining, sewing, care of children; the man-about-the-house (upper).

F. "Creative" activities by the pupils which are in and of themselves self-sustaining points of interest. Some of these, most of which are adaptable to any age group, may be:

1. Making and living in a model home.

Kinds of houses; planning and building a house; furnishing a home; decoration. Running a home; cooking and planning meals; entertaining; child care; household mechanics (handy-man); making and repairing clothes; cleaning and laundering.

Activity can be centered about a "house" set up in the schoolroom where as many activities as physical limitations and equipment permit may be carried out; "box" furniture can be constructed; curtains, wallpaper, pictures, and innumerable items can be made and utilized. Parties may be given, and the usual routine of housekeeping carried out or simulated. Another center of activity could be a model home

or cottage. Either of these could well be based on trips to observe houses and their interiors. Scrapbooks of room decoration emphasizing the probable income level can be made. A unit such as this affords ample opportunity for language and arithmetical development through reading books and catalogs, and measuring, counting, and computing activities. Specially prepared material for these activities may be based on the activities of the class, on catalogs, etc., available in the room.

2. A school or room newspaper or yearbook.

   A school newspaper or class newspaper can provide a focal point for a recurring type of unit lasting through a period of years. There is in such work a good opportunity for working with a group, for assuming a share of responsibility with an obligation to the group to carry a job to satisfactory completion. Opportunities in the field of writing and reading are, of course, rich. In the gathering of material as reporters, language training is provided. Such a paper can consist of special issues on various subjects. In the latter case, the gathering of material can serve as related or supplementary activity for units based primarily on other focal points.

3. A dramatization: writing, gathering data, presenting, especially historical, other regions, special events, and to some extent emphasizing social and ethical relationships, depending on age of the pupils. Puppet or marionette shows.

4. Giving an assembly program.

5. Preparation of individual or cooperative exhibits on a subject.

6. Setting up and maintaining an aquarium, terrarium, observation of ant nest or beehive.

7. Making a school museum.

8. Operating a school bank (upper).

9. Model store; post office.

10. Organizing campaigns—safety, clean-up, etc.

Experience Must Be More First-Hand. The second rule for insuring concreteness is to make the experiences more first-hand, to rely a great deal more on observation, demonstration, journeys and excursions, films and pictures, and a great deal less on "booksay and hearsay" as the sources of content for the pupils' experiences.

The occasional journey or excursion to view some unfamiliar and spectacular feature of the environment to enrich and make more concrete

experiences gained from books may suffice for average and brighter pupils, but the case is quite otherwise with the slow-learning pupil. For him, much first-hand knowledge of the environment gained through his own eyes, ears, and hands is a minimum essential. These first-hand experiences should often be used as primary sources of ideas and interests around which the classroom enterprises are built. Books and other forms of reported and second-hand experience may then serve to enrich, illuminate, and refine his experience and thereby become interesting and functional. The old Chinese proverb, "One look is worth a thousand words," applies with particular aptness to the slow pupil. Perhaps it should be expanded to read, "One look is worth a thousand spoken words and ten times a thousand written words," provided always that the look is a purposeful look. Mere undergoing of sensory stimulation—mere visual or auditory or tactual exposure to the sights and sounds and objects of the environment—does not result in enrichment of experience for the slow learner any more than for the rapid learner.

Excursions, Films, and Pictures. Every effort should be made, then, to bring the children into first-hand contact with the world about them both by taking them on excursions and journeys and by utilizing their own reports of first-hand experience as an important ingredient of activities localized in the classroom itself. Where facilities and resources do not permit a substantial amount of such experience, or where the environment is meager and poor, use can and should be made of motion picture films, still pictures, exhibits, and objects. Such devices may also be primary sources of the interests, purposes, and questions around which the school enterprises center. An experience that stems from a film or still picture or concrete object may need to be enriched and refined through supplementary experiences gained from books, but placing books in a secondary rather than a primary role does not make the experience as a whole less acceptable as a part of a pupil's education.

First-Hand Contact with Persons. People, too, are an important means of increasing the "first-handedness" of the pupil's experience. To see with one's own eyes and hear with one's own ears a person who has taken part in some significant event or activity gives the circumstances a realness and vitality that can scarcely be had by the second- or third-hand method of the printed page or even the best of pictures. And so the policeman, the postman, the engineer, the aviator, the old settler, and the hero should be generously utilized as resources in teaching slow learners. Such persons should be brought to school, not primarily to

entertain or to lecture or to reminisce and tell of their experiences, but rather to answer the children's questions and contribute their knowledge and experience to the development of an enterprise under way. One caution should be noted. If, in the course of an excursion, a person is invited to speak to the children, or if a person outside the school is invited to come into the classroom to speak, the tendency of such persons to "talk down," or, if explaining, to talk completely over the heads of the children, should be kept in mind. It is best to invite those who have had a good deal of experience with children, either as parents or club leaders or in some other way.

Participation in Community Activities. One should be alert, too, to possibilities for participation in the on-going life of the community. This is often very difficult to manage in the case of processes and activities normally carried on by adults in factories, shops, markets, and social-civic affairs. For this reason, socially useful work which the children themselves can carry on, such as clean-up campaigns, community beautification and improvement projects, operating gardens and poultry farms, is desirable. Onlooker, vicarious, side-line participation is better, no doubt, than no participation at all, but it is not an adequate substitute for first-hand contact with real life.

How to Use Community Resources, Trips, Films, and Pictures. Here some suggestions may be useful on the question of how to get access to these numerous first-hand resources for facilitating the concreteness of the pupil's activities, and how to use them to best advantage.

Community resources, and numerous leads to activities centering about them or suggestions for utilizing them as focal points for study or unit organization, are described in: Colcord, Joanna C., *Your Community,* published by the Russell Sage Foundation, New York, 1947. Numerous activities, primarily of a community service nature, which have actually been undertaken by school children are described in Chapter 3 of *Organizing the Elementary School for Living and Learning,* 1947 Yearbook of the Association for Supervision and Curriculum Development. Other helpful suggestions will be found in Olsen, Edward G., *School and Community,* published by Prentice-Hall, New York, 1945.

Trips may be taken either to explore or to stimulate interest in a new area, or they may be taken to find the answers to questions or problems that have arisen. In either case, care should be taken that the trip is not too long and that the points to be observed are relatively few and

clear. Too many things to see and too great complexity in the things seen can easily lead to more confusion than understanding.

Preplanning is essential, whatever the purpose of the trip, to insure that the desired aims are accomplished—that the trip is more than a pleasure jaunt. The teacher should already be somewhat familiar with the place to be visited so that he may know what there is to look for, what things to point out, and what directions pupil interest is likely to take. If the purpose of the trip is to answer questions, the questions should be clearly in the minds of the pupils and a definite opportunity should be given to find the answers. Some direct follow-up should be undertaken as soon as possible after the trip. The teacher should, of course, determine and correct whatever false impressions may have been secured. If the purpose of the trip is to stimulate interest, discussion or report of what was seen should follow the trip, with guidance by the teacher to point up the essential elements.

If an object or activity or place under consideration is not immediately accessible for first-hand study, pictures are in most cases the best if not the only way to give meaning to what would otherwise be meaningless abstractions or vaguely comprehended descriptions. Every teacher should keep or have immediately available a file of pictures. As many as possible should be mounted on separate sheets and the file should be kept clear of out-of-date or inadequate material. An opaque projector is an excellent device for showing a small printed picture or book illustration to an entire class. Lantern slides and filmstrips are also particularly useful; the former can be utilized for the projection of homemade cellophane slides. Stereographs probably give the most realistic impression and should not be overlooked in planning for slow learners.

In using pictures, whether they are to be viewed directly or projected, not too many should be shown at any one time, and the points to be observed should be few and clear.

Magazines will probably provide the most important single source of pictures. For other sources, the *Vertical File Index,* issued monthly, with annual cumulative volumes, by the H. W. Wilson Company, New York, is helpful. This is available in the larger public libraries and in the libraries of larger school systems.

Probably the most abused instructional resource is the motion picture. Too often it is used primarily for entertainment, and sometimes, unfortunately, as a time killer; and too often whatever film happens to be available—regardless of the subject or its suitability for the children—is

used. In addition, a large percentage of the films available are extremely poor, both technically and pedagogically. Suitable films properly used can, however, be of invaluable service, not only in conveying information clearly and quickly, but in presenting in a concrete form ideas which would otherwise be abstractions difficult or impossible to comprehend, particularly for the slow-learning child.

Whenever it appears that a film would aid in the development of a unit, the teacher should canvass the available material thoroughly. The most adequate sources are generally the local city or state departments of visual instruction, or the extension divisions of many of the state universities. Other sources are:

Educational Film Guide. New York: H. W. Wilson Co. Issued September through January, cumulated annually. Includes annotations, ratings, and reviews where available.

1000 and One. The Blue Book of Non-Theatrical Films. Chicago: Educational Screen, Inc. Issued annually. A comprehensive listing of films and sources. Brief descriptions.

In selecting films for use with slow learners, choose those that deal with only one or a few closely related topics or situations, that are relatively slow or deliberate in tempo, with a good deal of detail and without abrupt shifts from one kind of scene to another. Also choose those in which the "characters" are children of about the same age as those who are to see the film. Children, by and large, are not interested in what adults do *per se.* They are interested in what adults do *to, for,* or *with* children. But neither are they much interested in the activities of children younger than themselves. Avoid those sound films that bombard the ears with a steady and rapid flow of words, without pause for reflection, comment, or question. The vocabulary is often too difficult and the rate of speaking of most sound films is much beyond the slow learner's power to follow. Also, select preferably films from which particular scenes can be used without showing the whole film.

Before showing a film to a class the teacher should by all means preview it in order to familiarize himself with the content and to decide on the procedure of preliminary discussion and follow-up. The class should likewise be prepared so that they will have some purposes clearly in mind for seeing the film—things to look for, questions to answer. Thus they will not consider it purely as entertainment. As a follow-up, the teacher should see that the purposes were accomplished. If the film is used as an interest-stimulator, the leads that emerge should be followed

up at once. It is probable that several showings should follow immediately to clear up certain points; in other instances, showings will be found desirable at several points in the development of the unit to settle questions that arise or as a means of organizing together the ideas developed.

As with still pictures, the use of motion pictures should not be overdone. Usually, one reel is all that should be shown at a time; certainly two unrelated reels should not be shown, unless the purpose is entertainment. In most instances, it will probalby be found desirable to project the films in the classroom rather than in an auditorium.

Further help in using audio-visual materials may be obtained from: Dale, Edgar. *Audio-Visual Methods in Teaching.* New York, Dryden Press, 1946.

SOME ILLUSTRATIVE UNITS

In this section a few suggestive units are presented in outline form to illustrate ways and means of making the pupils' experiences more concrete and first-hand. Each outline presents (1) the most obvious or commonly thought of topic, theme, or subject-matter field represented by such a unit; (2) the focal point about which the unit may be organized; (3) some possible preliminary pupil activities to "set the stage"; (4) some questions and problems about which the subsequent activity may be organized; and (5) some suggested activities. Not all of these suggested problems or activities would or probably could be undertaken by any one class. The teacher must select from these, or from others that might be suggested, the ones which best fit the needs, abilities, and readiness of the pupils, and the resources of the particular school and community. Since these, and most other units suitable for slow-learning pupils, require about the same kinds of instructional materials, no effort has been made to suggest specific materials that may be used in each.

Teachers who may feel disappointed that units are not also suggested for mixed classes should bear in mind that the only way mixed classes of average and slow learners can be taught effectively is by means of enterprises that are as broad in scope and varied in subject matter and activities as those suggested in the following pages. Any of the units outlined is as suitable for a mixed class as for a slow-learning class, as suitable for a rapid-learning class as for an average class. Certainly there is no way by which the needs of slow learners can be met in any school if the curriculum must be based exclusively upon the kinds of things abler pupils can do, or upon any single list of approved activi-

ties or a uniform level of accomplishment. If for some reason the more conventional kind of curriculum must be carried on with children of average or superior ability, that is, a curriculum of the usual school subjects taught primarily from textbooks, the slow learners will certainly have to be organized into classes by themselves.

In any case, the only adequate way to care for slow learners in mixed groups is to carry on the kind of curriculum and the teaching practices that are effective with slow learners. If care is taken to see that the more rapid learners have a chance to do more reading, to undertake more complex and intellectual problems and subjects, and that they have more time to follow up their own individual interests and carry on "research," the units suggested below will suit them as well as the slow learners.

PRINCIPAL TOPIC (Theme, Subject, Center of Interest): *Transportation*

Focal Point: The trucks, busses, trains, airplanes, and boats which carry things and people to and from our city.

Getting Started: A preliminary trip to a railroad passenger station and to a freight depot might well serve as a device to arouse the interest of the class. The trains at the passenger station will be of interest to most of the group, and travel folders and timetables can be secured for later investigation. At the freight depot, the boxes and crates stored there, their loading and unloading, and their sources and destinations will probably be a source of interest.

Questions and Problems to Organize Activity: Some questions and problems which may be used to organize and focus activity are:

What are the different kinds of transportation to and from your city? (lower and upper).

What is the part played by each; why the different kinds? (upper). Is there competition between them? (upper).

How is power supplied for the different kinds of transportation?

What were the forerunners of present modes of transportation? (lower and upper).

How is transportation accomplished in other lands? (lower and upper).

Suggested Activities:

Trips to railroad passenger and freight depots, trucks, forwarding centers, bus depots, airports, etc.

Inspection: of trains—day coaches, Pullmans, express and mail cars, locomotives; of busses; of freight cars of different types; of trucks of different types; of airplanes of different types.

Telling about trips they have taken.

Examining and learning to use maps of routes, road maps, travel pamphlets, timetables, tickets, etc.

Writing for travel literature.

Making maps of routes and of sources and destinations of things and people transported.

Computing mileages, time, and rates.

Construction of models of trains, trucks, airplanes, etc., by individuals.

Listing some of the products brought to or taken from the city.

Making a map showing the sources of and routes traveled by the furniture and equipment in the classroom.

Reading and writing about modes of transportation in other countries and regions. Reading and writing about early modes of transportation and early trains.

Looking at travel films produced by railroads.

Drawing pictures of different modes of transportation—past and present, here and elsewhere.

Comparing Columbus' ships with Atlantic Clippers, pioneer covered wagons with transcontinental planes and high speed trains.

Reading about and reporting on Watt, Stephenson, the Wright brothers, Ford, and other "great" names in transportation.

PRINCIPAL TOPIC: Government

Focal point: The city hall; the people who work in it and what they do.

Getting Started: Visits to the city hall and probably immediately to the headquarters of several of the departments will serve as a satisfactory introduction to this topic. Initial attention should be directed to some of the more familiar or spectacular services, the fire and police departments, for example. From them, interest can be led into the other services.

Questions and Problems: Some questions and problems which may be used to organize activity are:

What are some of the things the city does for us?

Why are the fire, police, health, street, utilities, garbage, park, library, etc., departments necessary? What does each of them do?

What occupational opportunities are there in the city services?

What can we do to help make ours a better city to live in?

Suggested Activities:

Visiting the city hall and some of the administrative departments in it.

Visiting the service headquarters of some of these and other municipal departments—fire department, police department, health department, street maintenance, garbage, sewage disposal, parks, utilities, library, etc.

Dividing the class into committees, one for each department to be visited and studied, to help arrange for the visits, to make preliminary visits in order to act as guides and to take general charge of the visits, and to answer questions.

Finding out through these visits and subsequent study just what the function of each department is—why it is necessary, what it does, how its work is done.

Supplementing information received on these visits by reading books about firemen, policemen, etc.; by reading books telling how cities are run; by reading pamphlets and reports of these departments.

Making maps showing location of these services, of public buildings and parks, or of points observed.

Telling or writing about what was seen on these trips.

Writing letters to arrange for visits, for booklets, maps, etc.

Collecting or drawing pictures of the different kinds of city employees.

Making a scrapbook of the different things the city government does for the people.

Visiting a courtroom while it is in session; visiting jail; listening to talks by judge or policemen.

Individual or committee investigation of a topic or problem or proposed project of current interest to the city.

Setting up a classroom or school government based on the city government.

Organizing a Civic League to help clean up the city, or to help guard against vandalism; inviting officials of the fire, health, police, etc., departments to suggest ways in which the League can cooperate with them.

PRINCIPAL TOPIC: Nature Study; Conservation of Wild Life

Focal Point: The trees, plants, and animals of our community.

Getting Started: Interest in a topic such as this might arise out of some specimen brought into the schoolroom by one of the pupils, or may result from a trip to a park or to the country nearby where the teacher can point

out some of the "wonders" of nature, probably unnoticed but always interesting to children. After a few things are pointed out, the children themselves may be counted on to search for new examples and to uncover specimens of many types.

Problems and Questions: Some problems and questions which may be used to organize activity are:

What insects are found in our community? Trees? Flowers? Wild animals?

How do some plants and animals live?

How do some plants and animals grow?

What does the government do to protect our wild life?

What insects, plants, animals, are harmful to man?

What insects, plants, animals, are useful to man?

Suggested Activities:

Development of a school museum; making, arranging, and caring for exhibits.

Growing plants in the classroom or museum.

Making and keeping an observation beehive or ant nest.

Making and maintaining an aquarium.

Sprouting seeds on moist blotters.

Taking trips in the country, in parks, and in gardens, for collecting flowers, leaves, seeds, insects.

Learning to identify the wild and cultivated trees and flowers, the insects, and the wild and domestic animals of the community and surrounding country.

Reading and writing about and reporting on things collected.

Making exhibits showing development of seeds.

Seeing moving pictures on conservation plant growth, insect development, wild life, etc.

Reading or writing about the work of Luther Burbank, John Muir, John Burroughs, or other "popular" naturalists.

Examining insects, leaves, stems, etc., under a microscope.

Finding out how different plants and animals get their food.

Finding some plants and animals that are beneficial to man and some that are harmful.

Studying about and reporting on files as disease carriers.

Studying and telling about the ways our government protects wild life and the forests.

Drawing specimens collected and things seen.

PRINCIPAL TOPIC: Health

Focal Point: A doctor and his office; a hospital and what goes on inside it.

Getting Started: A visit to a hospital or to a doctor's office may provide the initial impetus for activities. Following the visit the points of particular interest to the class can be followed up as the first topics for investigation. Out of these, their interests can be developed by the teacher in other matters perhaps not noticed by them at first.

Questions and Problems: Some questions and problems which may be used to organize activity are:

Why do people have to go to doctors, and what are some of the things doctors do to make sick people well?

What are some of the most important rules for maintaining health?

For care of teeth?

How does one care for sick people? For minor injuries?

How are people taken care of in a hospital?

What are some of the things we can do to help avoid accidents? How are young babies cared for in the hospital? At home? What are some of the rules of food and diet for babies and for their general care?

What are some of the more common diseases found in the community?

How are they controlled and how are they treated?

What is the Red Cross, and what is its work?

Who are some of the men who have helped to make our lives more healthful?

Suggested Activities:

Visits to hospitals (patients' rooms, operating rooms, laboratories, offices, etc.); a doctor's office; a clinic; a dentist's office.

Discussing, reporting, and planning visits.

Listening to and discussing talks by a doctor, a dentist, a nurse.

Setting up a "doctor's office" in the classroom and dramatizing the work of a doctor (or dentist).

Making health posters for the "office" or for the classroom.

Studying and/or hearing the teacher read from some books and pamphlets on doctors and on health—Metropolitan Life Insurance Company pamphlets, for example; popular books.

Making a scrapbook of rules for health.

Observing child care in the hospital, in clinics.

Having a mother bring a baby to school; observing the baby and its care; preparation of a typical day's diet. Bringing equipment for care of babies to discuss and tell others of use.

Reading books, listening to talks, and asking questions to find out how to care for sick people.

Dramatizing care of sick.

Growing bacteria from fly tracks on culture medium.

Learning and practicing first aid; care of minor injuries and burns.

Giving reports on some famous men who have contributed to general health.

Engaging in activities to help control some of the common diseases.

Making maps of routes to and from school, indicating danger spots.

Arranging or campaigning to have annual physical examinations.

Undergoing a physical examination by the school doctor and interpreting what was done; a dental examination.

Finding out how colds and other common diseases are caught and what to do about them.

Keeping a record of health habits by means of a daily check list.

Finding out the physical requirements for the army and navy, and for military aviation.

Making diet experiments on rats, keeping records and making charts of weight changes, etc.

Investigating and reporting on cost of hospital care; medical care.

Investigating and reporting on health insurance; its cost.

A study of the eyes; their care; near- and far-sightedness; glasses.

Making a survey on some of the more common diseases of the community.

Statistical study of the records of communicable diseases of the community; making charts.

Investigating and reporting on the provisions for health in some local industries.

Investigating the work of the local public health department.

A study of the work and training of a doctor or nurse from the vocational standpoint.

DIFFERENCES AND SIMILARITIES IN TEACHING METHODS

In developing units such as those outlined in the foregoing pages, the teacher should keep in mind that slow-learning children learn in general by the same methods as brighter children. Nevertheless, there are some aspects of the process of guiding their learning in which special care must be taken.

Activities Must Be Simpler

One cannot expect slow children to carry on enterprises that are as complex and comprehensive as those carried on by brighter children of the same age. In the first place, to have the greatest purposefulness an activity must be planned in large measure with the pupils, and in making plans slow learners are unable to see as far ahead, consider as many alternatives, or take into account as wide a variety of factors as brighter pupils. Their projects and activities will normally, therefore, be somewhat shorter, somewhat narrower in scope, and their total on-going experience somewhat more episodic and piecemeal. Their experience is apt to be somewhat like a book of numerous short, well-integrated, clear-cut, episodic chapters with relatively few characters and a relatively simple plot, much action, and comparatively little philosophizing.

This should not be interpreted to mean that every day's work must necessarily be a finished job in and of itself. Natural unity is essential in the activities, and time is not a very important factor in preserving such unity. Time enters into the picture only as a corollary of the fact that the slow learner's grasp of what is relevant or pertinent is not great. In contrast to brighter pupils, he will not be able to work effectively at enterprises that take an extended period of time. He can remember fairly well what he learns from one day to the next if it fits into a growing, purposeful pattern or design. But merely breaking up his experiences into daily stints of unrelated, non-cumulative activities will not improve his memory. On the contrary, such a procedure will make his memory worse because it destroys one of the things that makes memory necessary; namely, sustained pursuit of a unifying purpose.

Plans Should Be Clear and Specific

One needs, therefore, to be quite definite and precise as to objectives and plans. A proposed project that is no more precise or definite than, say, "a study of photography," will not mean much to slower pupils. There are a hundred things one could do under such a heading, and slow-learning pupils will not be able to work purposefully until there is clarification and specification of what it is they are going to do about photography. But if the teacher suggests that the group learn how to make pinhole cameras and to take pictures with them, the pupils can quickly get a clear notion of what is involved and have a basis for judging as they go along whether they are achieving their purposes. There is, of course, as much opportunity to learn "all about photography" in such a project as there would be in the vaguer "study of photography."

Since pupils should take part in the detailed planning of their activities, time will have to be provided for thorough consideration of the situation with regard to which plans are being made. But when the specific planning stage is reached, that is, when the what-to-do-about-it question is asked, the end-in-view should be clearly foreseen even though that end cannot be projected very far ahead in time or very far afield. For example, if there has already been some general conversation or discussion about photography and cameras and there is present some tentative or incipient interest in finding out more, the teacher could suggest learning to make the pinhole cameras as one possibility; pupils might suggest others. Whether the teacher's suggestion or some other is finally acted upon depends on a good many factors, but one of the more important is certainly the definiteness of the objective and plan of action.

Continuity of Experience Should Be Preserved

In planning with slow learners care must be exercised in the transition from one experience to another. As the pupils move along from one major activity to another they should, of course, be able to undertake new activities on a broader scale and with greater skill because of experiences they have already had. But whether they will or will not depends both on the relevance and pertinence of past experience to a new enterprise and on the explicitness with which the relevance is pointed out. For example, if the children have had a rich and meaningful experience in their project on making pinhole cameras they should have learned much that is pertinent and relevant to a project involving the

making of a telescope (which they can do, believe it or not). But the pertinence may not be as obvious to them as one would suppose. Consequently, the teacher must take pains to make explicit by leading questions and comments the obvious bearings of the previous experience with light rays, convergence, refraction, focus, and the like, on the problems involved in planning the new project. The expanding and deepening of all experiences which go on with average and brighter children more or less subconsciously and incidentally, or at least without explicit verbalization, are much less likely to occur with slow-learning children. Continuity of their experience and transfer from one focal point to another or from one situation to another are less probable without explicit verbal formulation. Their experience is inclined to remain unnecessarily episodic, piecemeal, and disjointed unless pains are taken to "refresh their memories" during the preliminary stages of a new enterprise.

Demonstration Should Be Used Generously

One of the chief reasons for emphasizing activities based upon very concrete and tangible or objective things rather than upon predominantly verbal or abstract things is that such activities usually permit more demonstrating, constructing, picturing, and dramatizing as means of communicating ideas. First-hand experiences with models, objects, pictures, and people are not only highly desirable as sources of ideas; the kind of communicative process implied in such experiences is equally important as a means of presenting ideas. To be sure, not all that children learn, understand, or enjoy can be pictured, demonstrated, dramatized, or put into a model, but much can, and the teacher should be more than commonly alert to the possibilities in every enterprise for such means of communication. "I can't tell you what it is like but I can draw you a picture of it," is an entirely valid statement. Slow pupils have no greater ability to "picturize" or "dramatize" their ideas than other pupils, but very often they can express their ideas in this fashion much more effectively than they can verbalize them. A sand-table model of a farm or a village or a mountain, or of any other feature of the environment (made by the pupils, not the teacher) is more convincing evidence of how well the pupils know what they are talking about, or how they are being affected by an experience, than mere verbalization.

Drill or Practice Must Be More Extensive

The most obvious way in which the activities of slow children should be different from those of brighter children is in the matter of drill or

practice, particularly in skills and other learnings that are matters more of habit than of insight. This should not be interpreted to imply rote learning or mere repetitive exposure to processes and ideas in a monotonous way, or in an invariable context. There are many learnings that should be routinized or habituated, like the number combinations, the pronunciation of words, commonly accepted patterns of speech and language usage, and the like. Furthermore, many more general functions, like the fundamental processes in arithmetic, the meanings of words, the techniques of reading and writing, need to be stabilized and refined. These habituations and stabilizations take place in the slow learners' minds as a product of meaningful and varied experience in purposeful, creative, lifelike enterprises, just as with brighter children, but it takes a great deal more of such experience for the slow learners. Many more experiences with a word in a variety of contexts are required before a slow pupil is sure what the word is; many more examples in arithmetic before he is reasonably sure of the process of multiplying; much more of saying "he did it" rather than "he done it" before the acceptable pattern is established.

With abler pupils practice can be short-circuited somewhat by rules and formulas—the subject of the sentence should agree in number with the predicate—but rules are largely a snare and a delusion for the slow learners. For them the most effective rule is habit and custom. To be sure, many processes are highly generalized, flexible, and variable, and slow pupils have to grow in power to use such generalized patterns of conduct. But they develop generalized patterns or habits out of their own experience, slowly and by dint of much experience with specific situations. The kind of enrichment that is frequently provided for brighter children, that is, more experiences with a body of related ideas, principles, processes, or situations, is of course precisely what slow-learning children need, except that there should be more experiences with fewer ideas. Brighter children need to be guided into wider ranges of abstraction and generalization, and can be so guided on the basis of fewer specifics. While two examples may suffice to clinch a process in arithmetic for them, the slow pupils will very likely require twenty.

As has already been pointed out, learning cannot be reduced merely to a quantitative basis; quality is after all more important. Nevertheless, in those matters of common knowledge and skill in which everyone needs a measure of efficiency, whether he is a rapid or a slow learner, and in which a modicum of efficiency is actually possible, a reasonably

valid rule of thumb for the slow learner is that he should have more practice and many more experiences with varied but closely similar situations than are necessary for the general run of children. But all the practice one could devise with closely similar situations will not enable a pupil with an I.Q. of 85 to gain any effective control of the concepts of algebra or the rules of English grammar.

More Frequent Evaluation Needed

Finally, more frequent assessments and evaluations of school progress need to be made with the slow-learning pupil than with the brighter pupil. There are two main reasons for this. A great many slow pupils have experienced much more than their share of general frustration and inadequacy even in the best managed schools. Emotional security and a sense of adequacy and acceptability are less likely to be theirs. They need more frequent assurance that what they are doing is satisfactory, and that their present activities in the end will bring them out where they ought to come out. Their own insight and powers of criticism are not very great at best, and they are often lacking in self-confidence. They are inclined to give up easily therefore, particularly if the goals are not very clear or their interest is not very high.

One can, of course, fall into the error of becoming too kind, too optimistic, and too sentimental at this point. Teachers are often urged to bestow praise and commendation generously on the slow pupil. This is all very well, for bright pupils or for slow, but praise should be given for the praiseworthy, commendation for the commendable, approval to the satisfactory and the adequate. More frequent opportunities should be found to commend and approve; at the same time one should not hesitate to correct, caution, and restrain whenever it appears that the pupil's progress is being hampered by needless error or inadequate performance, especially when one knows that improvement is possible. No slow learner is too stupid to see through superficiality, false praise, a Pollyanna-like optimism, or a sentimentality that overlooks reality.

A further reason for frequent evaluation is that the slow pupil is somewhat prone to be slipshod in his work, to feel that the end justifies the means, to be content with an approximate result, a reasonably workable product, or a partial solution. He often fails to sense that many an enterprise goes awry not because the plan was inadequate or because the purpose was too ambitious, but because the step-by-step details were neglected. A dress, for example, which looks rather well on the whole

and "covers the subject" but which will not bear close inspection of seams or buttonholes, or a report or floor talk that enables one to "get by" even though it is not relevant to the subject or original in content—these are rather typical performances of the slow pupil. His philosophy often seems to be that tomorrow will take care of itself so there is no need of being too meticulous today.

Such pupils must often be allowed to learn by experience the error of their ways—to burn their fingers, so to speak, before they will believe the stove is hot, or to have their friends comment disapprovingly on the slipshod way the dress was put together. This policy may need to be followed at times with the more stubborn and obtuse, particularly if the experience as a whole promises to be rather convincing and not too damaging in the process. But one should not be too hopeful that slow-learning children will be convinced by their own experience. They are good rationalizers and prone to think it doesn't matter anyhow.

SUMMARY

In summary, the chief points to keep in mind in teaching slow learners are these: (1) Goals and objectives must be realistically adapted to the needs and resources of ordinary people in ordinary circumstances. (2) Activities must be made concrete by being based largely on tangible features of the environment, and through the use of much first-hand and pictorial experience. (3) Activities must be relatively simple in organization, clear-cut as to purpose and plan, and must provide for generous use of demonstrations and practical applications. (4) Generous and frequent provision must be made for drill and practice in skills and habits. (5) Frequent evaluations must be made of progress.

Almost any book dealing with the curriculum that reflects an active, creative, experiencing view of teaching and learning will contain many helpful suggestions for teaching slow learners. A good many successful teachers have found the following especially helpful:

Hildreth, Gertrude H. *Child Growth through Education.* New York: Ronald Press, 1948.

Organizing the Elementary School for Living and Learning. 1947 Yearbook, Association for Supervision and Curriculum Development, National Education Association, 1947.

Toward Better Teaching. 1949 Yearbook, Association for Supervision and Curriculum Development, National Education Association, 1949.

CHAPTER V

How to Teach the "Fundamental Processes"

EVERY child and youth, slow learner or rapid learner, must learn to read, write, spell, compute and solve problems, and speak the mother tongue with reasonable grace and fluency. Without these there is little communication, and without communication there is little learning. Even so, there is no justification for the all too common practice of making the curriculum of the slow learner almost exclusively a matter of formalized, animal-training-like drill in these so-called "fundamental processes." Such practices invariably defeat their own purposes. Effective skill in or mastery of a process can never be acquired apart from the vital, purposeful activities that make the skill both necessary and meaningful. This fact must be kept constantly in mind; it is of paramount importance in reading and arithmetic.

READING

Teaching the slow learner to read is often regarded as one of the most troublesome problems in the whole curriculum. Certainly it is one of the most important. Often part of the trouble stems from the false notion that the slow learner should, or can, be expected to read as well as the average child if one brings enough pressure to bear on him or if one uses the right methods. Slow learners can usually be taught to read much better than they customarily do, but that does not warrant trying to bring everyone "up to grade" or concentrating on reading to the neglect of other highly important matters. The real problem in teaching slow learners arises from the necessity of keeping reading a highly functional experience closely tied into, if not centered in, other features of the curriculum, and at the same time providing needed systematic and cumulative development of basic skills and techniques.

This is, of course, the same problem that confronts teachers of average children or rapid learners. The degree of difficulty is somewhat greater with slow-learning children, but it is the same kind of problem. Only the teacher of highly gifted children can hope to escape this particular problem to some extent. Intellectually gifted children often learn to read without much systematic instruction, but even they seldom learn to read as well without systematic instruction as they do with it.

There are no special methods for teaching slow-learning children to read. They learn to read in the same way other children learn to read. Any well tested method of teaching reading advocated by specialists in the field may be used with slow learners, and one need not rely exclusively on any particular method. One method may succeed with certain pupils where another fails. However, orderly, systematic development of reading techniques is of paramount importance; haphazard use of several methods will lead only to confusion. Regardless of the method, there are certain matters in which special care must be taken by teachers of slow learners. These are (1) reading readiness, (2) the development of vocabulary and techniques of word recognition, (3) standards of expectancy, (4) the selection of reading materials, and (5) the preparation of supplementary reading materials.

Reading Readiness

Most slow-learning children who have spent a year in kindergarten may be expected to have learned a few common words and to have acquired some readiness for reading, but one cannot expect that many slow-learning children will be genuinely ready for formal reading before the end of the first grade. It will take the greater part of the first year to build up a useful sight vocabulary and to acquire enough background of first-hand experience to make reading meaningful. Systematic instruction in reading involving extensive use of books should therefore usually be delayed until the second year. A few pupils may be ready for books earlier, but little is lost by continuing the more informal and incidental uses of reading until the majority are ready. More time spent on getting experience and developing a generous fund of meanings for oral language, in getting more things to talk about and read with—for one reads with experience, not with eyes—pays dividends later. With a great many slow children, particularly those whose home environments and resources are meager and who have not been in a kindergarten, an extra year spent in getting ready to read may be needed.

In the beginning, then, one must teach slow learners to read by teaching them to talk. In addition to the "big experiences" that make up the curriculum, the routine caring for pets, the unusual experiences of the home environment, the maintenance of a garden, and many devices of dramatic play contribute to the child's experience and background for reading. The children may label common objects, and match words and corresponding pictures or colors. Picture dictionaries are a source of great delight to the children. The art work may be labeled with simple action words, descriptive titles, or short, simple stories. Every opportunity should be utilized for meaningful, practical "communication" consistent with the character of the project or activity under way. The environment should be full of invitations to the pupil to employ any facility which he may have gained in reading.

Building Vocabulary and Methods of Word Recognition

Making use of the oral language of the children in reporting or discussing their everyday experiences—the projects and activities they carry on as the "major" part of their school life—is the best way, and at the beginning the only effective way, to build vocabulary. Many times as much experience with a word in a reasonably natural context will be required with the slow pupils as would be required with average children. This does not mean that the teacher should force the children into artificial or repetitious patterns of language during this first or oral phase of the reading process. While they are talking about their trips to the market, or their plans for a project, the teacher must be alert to see that the meanings of words commonly used are adequately developed without, of course, interfering unduly with the spontaneous and natural expression of the children. In reducing the oral language to printed symbols on the blackboard, on a chart, or for seat work, the teacher must be careful to build up the secure mastery of common words that can be used as the sight vocabulary. He must be alert to signs of boredom which may arise from uninspired blackboard and seat work. He must exert all the skill at his command in providing the necessary richness of experience with words without monotony of expression or thought. In all this, vocabulary must of necessity be increased very slowly to enable the slow learner to make every word his own.

As systematic instruction progresses, the pupil must develop methods of word recognition, refine his eye sweep and fixations, and develop accuracy in moving from line to line. This is gained in large part by the

use of much easy reading material based upon a vocabulary familiar to the pupil, with some direct suggestions by the teacher as to the method of developing the technique. This is a point at which haste often makes waste. It is better to take plenty of time to get right habits established at the outset; there will then be fewer cases of remedial teaching later on.

In working with slow learners some use may be made of phonetics. The teacher, however, should remember above all else that the phonetic device is usable only after the sight vocabulary has become large enough for the child to read with some facility. Furthermore, the sounds must be derived from the reading and only after the sound has occurred frequently. Words illustrating the sounds should be drawn from the reading materials. Rules for phonics should be avoided and the symbols or phonograms should be introduced one at a time and not too frequently. Lack of system and hurried teaching may do more harm than good.

The slow learner should be taught to use context clues as much as possible, even though he may not be able to utilize such clues as effectively or as often as the abler pupil. This requires extensive use of fairly easy reading material. The workbooks that accompany some commercially prepared reading series often contain good material for practice purposes in developing effective habits of word recognition, and sentence and paragraph reading. In using such materials, the teacher must bear in mind that the vocabularies of commercially prepared readers and workbooks differ widely in difficulty and quantity, and that most of them presuppose a rate of increase in vocabulary power far in excess of the possibilities of slow learners. Above all, the use of such materials must never degenerate into mere perfunctory drill or meaningless busy-work.

For the greater part of the time during the first three or four years, oral reading is to be preferred to silent reading. The children are not far beyond the initial oral language stage, the natural method of expression, and this still serves to reinforce the processes of reading. Moreover, in oral reading, the teacher is enabled to check more closely on progress as well as on faulty habits of word attack. Since slow learners are especially prone to repeat their mistakes, the teacher can stop faulty habits more quickly if the child reads aloud.

It is possible, of course, to stunt reading growth by too much use of reading material which calls forth little, if any, effort to learn. Nevertheless, even when a pupil expresses a desire for more advanced reading, the wise teacher will be cautious in providing such material. If the pupil's desire has been generated by interest in a particular subject, the

teacher should suggest additional fairly easy books on the same subject. If none are available, material may need to be prepared which satisfies the interest without burdening the pupil with a vocabulary of such difficulty that a feeling of failure results when the child tries to read it.

As the pupil grows older, increased attention should be given to varied types of reading material. "Practical" reading is of course the paramount consideration with the slow learner. However, reading for pleasure must not be overlooked. The pupil should have the same access to the school library as other children, and should be taught how to use the public libraries. A "reading room" within the classroom may be used to encourage exploration in leisure reading. One cannot, of course, expect slow learners to go in for belles-lettres and the kind of recreational and leisure-time reading that attracts abler pupils. But there are a good many books of adventure, biography, nature, mechanics, and travel that slow learners can read with pleasure and profit. Furthermore, reading the daily newspapers (the less "high-brow" ones) and some of the popular magazines is a better use of leisure time than merely killing it. But after all is said and done, one can never expect slow learners to achieve much "at homeness" in the world of books. Their world is primarily a world of first-hand experience—with things they can see, touch, hear, taste, and smell. Books serve somewhat to illuminate, enrich, and refine such experiences, but they seldom become a primary factor in extending the slow learner's contacts with the world about him.

Standards of Expectancy

How shall one know whether pupils are reading as well as they should? How shall one judge whether a pupil needs remedial or supplementary instruction? Many a slow learner has been called a reading problem because he was not "up to grade," when, as a matter of fact, he was no reading problem at all.

A child's own particular pattern and rate of growth and development is of course the most defensible standard for judging his progress in learning to read.[1] Applying such a standard is extremely difficult because it is not easy to obtain adequate or reliable knowledge of a child's

[1] The "philosophy of growth" and its application to this problem of establishing standards for estimating and evaluating the school progress of children is developed at length in Willard C. Olson, *Child Development*, Boston, D. C. Heath & Co. 1949. See also Chapter IV, "Growth Patterns of Exceptional Children," by Olson and Hughes in *The Education of Exceptional Children*, 49th Yearbook, Part II, National Society for the Study of Education, 1950.

own developmental pattern. In order to establish the trend of development, one must have available data concerning the child's status on many aspects of his growth at different intervals over a fairly long period of time. In most ordinary school situations, such data are seldom available in sufficient variety and for a sufficiently long period of time.

In the absence of an adequate basis for establishing "developmental norms" for particular slow learners, practical use may be made, provided it is done judiciously, of facts concerning the child's mental age. As has been pointed out before, there is a rather high correlation between reading ability and general intellectual ability, as measured by intelligence tests. The correlation is not perfect, but it is high. Consequently, the pupil's mental age, as obtained from time to time on such tests, is a practical all-round guide of what to expect in the way of reading ability. A good general rule to follow is this: If the pupil's reading age, obtained by means of standardized reading tests, is within six months of his known mental age, obtained by two or more group intelligence tests, or by means of an individual Binet test, he is "up to grade." Of course he may not be "up to grade" in the usual sense of school grade. For example, a pupil may be in the fifth grade and be able to read only as well as the average third grader. Nevertheless, if he is ten years old (the typical age for fifth grade) and has an I.Q., say of 85, he has a mental age of almost 8–6. This is comparable to the average chronological age of children in the third grade. Therefore, such a pupil should be regarded as meeting reasonable standards; he is not a problem.

In applying this general rule, two points should be kept in mind. First a difference of at least six months between reading age and mental age should be allowed before concluding that a pupil is "below grade." Second, all kinds of reading should not be lumped together. That is, a pupil may be "up to grade" in general survey reading, and below grade or above grade in comprehension of words, or in speed, or in skill in following directions. Each of the kinds of reading abilities measured by good up-to-date reading tests should be considered separately in assessing a pupil's status and progress.

Unfortunately, the majority of standardized reading tests furnish grade scores rather than age scores. The grade score is a meaningless and useless score when dealing with slow learners. Some tests give age scores also, and a few provide tables or other devices for translating grade scores into age scores. While there is not exact one-to-one correspondence between grade scores and age scores for any particular raw score

on a test, nevertheless one will not go far wrong in assuming that such is the case. Therefore, for most practical purposes, any obtained grade score on a reading test can be translated into an age score by the simple device of adding six years to the obtained grade score. Thus, an obtained grade score of 3–0 is approximately equivalent to an age score of 9–0; a grade score of 5–3 is roughly equivalent to an age score of 11–3.

As an illustration of what one may expect to find, the following table presents the status of an actual group of pupils, most of whom are slow learners. This is nominally a fourth grade; the data were obtained near the close of the 4B grade.

ILLUSTRATIVE TABULATION OF DATA FROM A FOURTH GRADE

Child	Sex	C.A.	M.A.	I.Q. (S-B)	Reading Ability (Gates Silent Reading Tests Types A and C) Reading Age	Reading Grade
1	F	11– 0	7–11	72	9– 2	3.6
2	F	10– 0	7– 7	77	8–11	3.4
3	M	10–10	9–10	91	11– 6	5.8
4	M	10– 1	9– 5	93	9– 1	3.5
5	F	9–10	10– 3	104	9– 3	3.7
6	F	11– 1	8– 9	79	11– 0	5.3
7	F	10– 5	8– 9	80	8– 5	2.9
8	M	10– 4	7– 7	73	8– 8	3.2
9	F	9– 7	8– 8	90	9– 3	3.7
10	M	10–11	9– 2	84	8– 8	3.2
11	M	11– 5	10– 5	93	9– 2	3.6
12	F	10– 0	8– 6	85	9– 8	4.0
13	F	11– 5	9–10	86	8– 6	3.0
14	M	11– 1	11– 2	101	8– 3	2.8
15	M	10– 0	7– 7	76	9– 2	3.6
16	F	10– 8	7–11	74	8– 9	3.3
17	M	10– 4	9–11	96	12– 0	6.3
18	F	10–10	7–10	72	8– 3	2.8
19	M	11– 8	9– 8	83	10– 0	4.3
20	M	11–11	11– 1	93	9– 1	3.6
21	M	9– 2	8– 6	93	10– 3	4.5
22	F	12– 6	10– 6	84	9– 6	3.9
23	M	9– 2	9– 1	99	8– 9	3.3
24	M	9– 8	9– 1	94	9– 5	3.8

While this is nominally a fourth grade, it will be noted from the last column of the table that only pupils 3, 6, 17, 19, and 21 are "up to grade" in the sense that their reading grades equal or exceed their school grades. But when the figures in the column headed Reading Age are compared with those in the column headed "M.A.," it will be seen that most of these pupils are "up to grade" or above grade. In fact, pupils 1, 2, 3, 6, 8, 12, 15, 17, and 21 are doing considerably better than one would normally expect. Only pupils 5, 11, 13, 14, 20, and 22 are sufficiently below grade (i.e., reading age more than 6 months below mental age) to occasion particular note. It will be observed, too, that all of these, except No. 22, are among the intellectually abler pupils of the group, judged by I.Q. This suggests, of course, that these pupils' deficiencies have come about, in part at least, as a result of earlier reading difficulties. These are the ones to focus attention upon in planning remedial and supplementary teaching. Certainly none of the pupils should be "failed." All of them, except possibly No. 5 are over-age for the fourth grade; failing them or leaving them back would only make matters worse.

This table contains some data bearing on another point teachers of slow learners should keep in mind. Note that pupils 1, 2, 8, 15, 16, and 18 are the slowest, intellectually, of the lot, and that they also have reading ages well in excess of their mental ages. This is not a usual situation by any means, but these cases illustrate very well the results often obtained on general surveys, namely, that slow-learning pupils by and large tend to have high accomplishment ratios; that is, their educational ages tend to exceed their mental ages. This has led many persons into the belief that if only the right methods were used or enough pressure applied, every slow learner could be brought up to his chronological age standard in reading—a standard most persons have in mind when they say "up to grade." But unfortunately the evidence seems to indicate that when the pressure is released, the slow learner relapses. He settles down to what for him is a normal pace or level of reading that holds fairly close to his mental age. The ability he displayed under pressure was apparently spurious. This happens frequently and extensively enough to warrant little hope for the possibility of making the pupils "smarter" than they really are. Furthermore, these high accomplishment ratios are always achieved at a cost of time and energy out of proportion to the values obtained. Ability to read well is important for the slow learner, but it is not the be-all and end-all of his life.

Reading "Problems"—Remedial Instruction

The slow learner who is a genuine reading problem may be located in part by comparing his mental age and his reading age. If they coincide fairly well, then the pupil is working at a reasonably high level. He may be recognized, too, by comparing his attainments in reading with his attainments on standardized tests in other fields. If the reading age is well below that in arithmetic, spelling, and other subjects, there is the possibility that the pupil needs remedial work.

What does the remedial program entail? Chiefly, good teaching raised to the maximum of effectiveness, but also discovery of the specific disability of the pupil and the devising of techniques to deal directly with these weaknesses. The techniques are the same for slow learners as for pupils more nearly average in ability. Any good professional book on the teaching of reading will suggest procedures that are effective with slow learners. The chief additional requirement of a good remedial program is an abundant supply of easy reading material, dealing with interesting subjects and as well written from the standpoint of style as one can find.

Before discussing the problem of selecting and preparing reading materials, it would be well to summarize briefly the main features of a desirable program of instruction in reading for slow learners:

The pupil must not attempt reading formally until considerable time has been spent in a reading readiness program; until he has acquired enough maturity and experience to make reading meaningful and permit the techniques of reading to be mastered easily. After the pupil is introduced to the reading process, great care should be taken to maintain interest, to insure success, and to establish good reading habits. As the reading habits are established the pupil's horizons in reading should be gradually broadened. A reading ability roughly comparable to the pupil's mental age should be regarded as a normal standard of accomplishment.

Selection of Reading Materials

In selecting reading materials for slow learners, the teacher may use to some extent the same resources as when selecting books for other children. Publishers' catalogs, of course, are useful, but the estimates of quality, difficulty, and suitability for slow learners have to be taken with a grain of salt. A more reliable guide is to be found in the peri-

odicals devoted to children's books and reviews of books in general. Their estimates as to quality, difficulty, and interest are fairly reliable. Some of the better known of these are *The Horn Book*, the *Elementary English Review*, and *The Booklist*. These publications are generally available in larger public libraries and the libraries of university and college departments of education, teachers colleges, and the professional libraries of city and state school systems. Many public libraries and state departments of education prepare book lists of their own which usually are available for the asking, or at a nominal cost. Graded book lists published by the American Library Association, the Association for Childhood Education, and the United States Office of Education are also useful.

There are two main points to keep in mind in selecting books for slow learners. First, the reading interests of slow-learning children are about as wide and varied as those of the general run of children. Moreover, ten-year-old slow learners are interested in and "allergic" to much the same kinds of things as are ten-year-olds of average ability. There are no unique or special needs or interests that have to be considered in selecting books for slow learners.

Second, books for slow learners must deal with subjects appropriate for a given chronological age and still be simple in style, ideas, and vocabulary. It is not easy to find books meeting these conflicting requirements, because it is not easy to write such books. In general, it may be said that books which are suitable for younger children and therefore easy enough for older slow learners are likely to be too "juvenile" in subject matter for slow learners. Usually this unsuitableness on the grounds of juvenility is entirely valid; sometimes, however, slow learners will reject a book that is otherwise suitable simply because they suspect that it is really a book for younger children. Slow learners are quite sensitive on this point. Therefore considerable care must be taken to prevent pupils from getting the notion in the first place that a particular book is written primarily for a younger age group. This is not so difficult with general or supplementary reading materials or "trade" books, but it is very difficult with "school books," or any book resembling a textbook. Unfortunately, too many such books are conspicuously labeled as being for Grade III or Grade IV, etc. This device alone often constitutes an insurmountable obstacle to the use of a book that might otherwise be quite suitable.

The general suitableness of a book depends upon so many factors

that no simple rule for evaluation can be given. Some rather complicated score cards and other devices have been constructed for this purpose. These are often used in libraries or by publishers and reviewers in evaluating books, but they are rather too complicated and time-consuming for a teacher to use very advantageously.[2] When books must be selected in advance from book lists or catalogs one must rely on the evaluation furnished in the lists or catalogs and hope for the best. When it is possible to examine the books prior to purchase, a good procedure is the following:

Leave the book on the free-reading shelf or table for a few days. Call attention to it and invite some of the children to read parts or all of it and tell you what they think of it. If it tends to attract and hold interest, it is probably suitable as to content and style. Then ask two or three pupils whose reading age is known to read orally a few passages selected at random from the book. Ask one of the poorer readers, one of the average readers, and one of the best readers to do this. If the poorer reader can read a few paragraphs without undue stumbling or halting over more than three or four words, the book is easy enough for almost any pupil in the class. Similarly, if the average reader can do this, the book is easy enough for perhaps two-thirds of the group. But if only the best reader can handle the book with reasonable ease, the book will not be suitable for more than a few pupils. It may be purchased, nevertheless, with that limitation of usefulness in mind, but if one needs primarily books that every pupil, or most of them, can read, this book should be rejected or perhaps recommended for an older group. In this test reading, do not allow the pupils to fumble with words they do not know. After a momentary pause or blocking, tell them what the word is so that they may go on without a sense of failure or a feeling that the book is too hard. The purpose here is to evaluate the book, not to test the pupil.

Difficulty is not wholly a matter of vocabulary, of course. Sentences should be fairly short and simple. Compound, complex, and inverted sentences are too much for the slow learner. In the selected material relational words should be used sparingly and parenthetical expressions avoided. A simple, direct, and lively style of writing is desirable.

Books for slow learners should of course be well designed and well

[2] Perhaps the least complicated formula of this type is "A Formula for Predicting Readability," by Edgar Dale and Jeanne S. Chall, Bureau of Educational Research, Ohio State University, Columbus, Ohio.

manufactured. In general, the larger the type the greater should be the white space between lines. Overcrowded pages, with too narrow margins, are bad; the plainer and more direct and functional the page, the better. Decorations and embellishments along the margin or in the text detract greatly from readability. The type face itself should be plain and not too large. A four-inch line is the optimum length. Generous use of illustrations is desirable, provided the illustrations are functional. They should be related to the text and contribute something to it. Mere inclusion of nice pictures in a book for the sake of the pictures contributes nothing beyond possibly attracting attention to the book. By and large, a book that is attractive and satisfying to ordinary children, from the standpoint of design and manufacture, will also be attractive and satisfactory to slow learners.

Writing Supplementary Materials for Slow Learners

In most schools, the teacher will usually need to prepare a good deal of supplementary reading material. This is a rather difficult and time-consuming job; there are, however, some general procedures that will help make it easier.

First, of course, it is necessary to decide what kind of material is needed—whether a story, an informational article, or perhaps directions for making or doing something.

Second, write the material in your best, most natural style. This will help to avoid a stereotyped or artificial style and obvious "writing down." Aim at a level of difficulty and comprehension about a grade or a year below the level at which you expect the material to be read with reasonable ease. You will probably be about a grade too high even then. Do not worry too much about vocabulary or complexity of sentences at this stage.

Third, revise the first draft as follows: (1) Check the sentence length and structure. Never use a compound or complex sentence when a simple sentence will suffice. Rewrite all inverted sentences. (2) Check the vocabulary. This is a tedious process, but a necessary one. If the material is brief, check every word against either the basic vocabulary of a good series of basal readers or against the Gates primary word list.[3] The latter will suffice for materials prepared for

[3] Arthur I., Gates, *A Reading Vocabulary for the Primary Grades.* Revised and Enlarged. New York: Bureau of Publications, Teachers College, Columbia University, 1935.

pupils up to about grade four in reading ability. If this list is not available, the vocabulary of a good basal reading series will indicate the words most pupils may be expected to have encountered up to any particular grade level. Wherever possible, eliminate words in your material not found in these "control" lists, substituting other words known to be in the list, or otherwise familiar to the pupils. Words that cannot be eliminated or replaced should be listed as "new words." The pupils will need to be introduced to these words and given some preliminary experience with them before they read your material; otherwise they will stumble over them and think your material is "too hard." If the material is too extensive to permit checking every word, a fairly large percentage of the words should be checked—say every tenth word, or the last word of every line.

In general, not more than one or two "new" words should be encountered by the pupils in a hundred running words, and the new words should be well distributed throughout the material. If a regular program of writing for the pupils is carried on, it is desirable to keep these new words in mind and use them again and again in subsequent materials. Twenty or thirty repetitions of a word in a variety of contexts will be necessary before a slow learner really makes it his own.

For more mature readers, those who can read at the fourth grade level or above, the Gates primary word list may prove too limited. At this level also, one can check against the vocabulary of a basal reading series. Use can be made of the Thorndike teacher's word list.[4] This is not a graded list, but it can be used effectively. When writing for pupils of about fourth grade reading ability, try to keep 90 per cent of the vocabulary within the first 1,000 words of the Thorndike list; for fifth grade, try to keep 90 per cent of the vocabulary within the first 1,500 words of the list; for sixth grade, within the first 2,000 words. This will tend to keep the material as a whole easy enough for fluent, confident reading, and provide a margin for new or uncommon words for vocabulary building. Effective use can also be made of the word list supplied in connection with the "Formula for Predicting Readability" by Dale and Chall, mentioned previously.

Fourth, try out your material with a few pupils whose reading abilities are representative of the group as a whole, much as was suggested for new books.

[4] E. L., Thorndike, *The Teacher's Word Book of 20,000 Words.* New York: Bureau of Publications, Teachers College, Columbia University, 1932.

Fifth, if the material seems to "work" well with these pupils, mimeograph or otherwise duplicate it, taking pains to avoid typographical errors, smudging, crowding on the page, and other faults that detract from appearance and readability. For material designed for younger children, a primer typewriter is desirable.

In the final analysis, writing for children, slow learners as well as others, is an art, and only experience will give one self-confidence and skill in the practice of that art. Encourage the children to criticize and evaluate your work. Their appraisals of what has been written provide valuable clues to their interests and preferences as well as to their own growth and development.

Additional help in teaching reading to slow learners may be had from the following:

Bond, Guy and Wagner, Eva Bond. *Teaching the Child to Read,* Revised Edition. New York: The Macmillan Co., 1950.

Dolch, Edward W. *A Manual for Remedial Reading,* 2nd Edition. Champaign, Ill.: The Garrand Press, 1945.

Gans, Roma. *Guiding Children's Reading through Experiences.* Bureau of Publications, Teachers College, Columbia University, 1941.

Gates, Arthur I. *The Improvement of Reading,* 3rd Edition. New York: The Macmillan Co., 1947.

Witty, Paul. *Reading in Modern Education.* Boston: D. C. Heath and Co., 1949.

ARITHMETIC

The general approach to the teaching of arithmetic to slow learners is much the same as for reading. Experience with number concepts and relations must be as closely related to the major activities of the pupils as possible, but there must also be systematic and sequential teaching. Advantage should be taken of every legitimate opportunity in the major activities to use the arithmetic the pupils already know and to demonstrate the need for more. But legitimate opportunity does not mean artificially dragging in arithmetic just to have some arithmetic in every project or activity. More important, content or subject matter similar to the functional subject matter of the major activities should be used in teaching arithmetic directly, but the content of arithmetic need not be restricted to that used in the major activities. Arithmetic can have a body of meaningful, functional, social content by itself if one is careful to apply the kinds of standards in selecting the content that one uses in selecting the content of the major activities, or the content of reading. Failure to apply such standards in the past, cou-

pled with failure to teach arithmetical *understanding*, explains why so many slow learners in innumerable schools have had a difficult time with the subject. One cannot make arithmetic a matter of animal training—of hair-trigger responses to number cues and quantitative situations that are not understood. Nor can one rely on an incidental, catch-as-catch-can procedure, taking one's cues wholly from the major units in deciding what to teach and when to teach it. Such incidental teaching almost invariably turns out to be merely accidental. If any one principle of teaching arithmetic to slow learners should receive primary emphasis, it is that the slow learner must understand what he is doing if he is to learn anything of permanent value.

Guides for Selecting Content

On the whole, the most practical procedure for most teachers in teaching arithmetic is to rely upon a good modern socialized textbook to indicate the general sequence of instruction and to provide a minimum amount of content material. The content of any arithmetic textbook will always have to be supplemented by a considerable amount of practice material, much of which will have to be prepared by the teacher. One cannot, of course, expect to teach all the topics or units in any textbook prepared primarily for average or rapid learners. Only a reasonable amount of time can be legitimately spent on the teaching of arithmetic; the framework of processes and topics will have to be reduced to the barest minimum compatible with the pupils' present and probable future needs. In using the pruning hook thus vigorously and boldly, one must be careful not to lop off all the branches and foliage and leave only the skeleton of the tree. Richness and fullness of experience with a few fundamental processes and topics should be the rule rather than superficial and ephemeral experiences with many items. A little essential arithmetic genuinely learned is better than superficial exposure to a variety of things the slow learners can seldom learn or actually ever use.

In selecting a textbook series to serve as a general guide, there is one other point that should be kept in mind. The series should provide a good "spread" in all the processes or units suitable for slow learners. This is necessary because the processes and operations of arithmetic are rather complex and involve several levels of understanding and skill for adequate control. More will be said about this in the following section on teaching procedures.

Teaching Procedures

Teaching arithmetic to slow learners is not a great deal different from teaching arithmetic to average and rapid learners. However, there are some matters that require more attention or that raise special problems. These are considered in the following paragraphs.

Arithmetic Readiness. Children are usually a great deal less "ready" for arithmetic when they first start to school than they are for reading. Very few slow learners ever acquire a rich enough background of general experience with numbers or the quantitative aspects of life to warrant systematic instruction in arithmetic before their second or third year in school. The first year or two should be spent in an arithmetic readiness program, much as one carries on a reading readiness program. Primarily this should concern itself with understandings and appreciations of gross relations, such as relative size, weight, or cost of various common objects, relative lengths, distances, speeds, and the like, and with learning to recognize the number symbols and their names, learning to count, and learning to know the easier addition and subtraction combinations.

Systematic Instruction Must Be Spread Out. Beginning with the second or third year, more systematic work may be undertaken with the fundamental processes with whole numbers. Thereafter, the program of instruction should move along fairly systematically throughout the rest of the pupils' school life. But one cannot expect to teach subtraction "once and for all" during the second year or division during the fourth or fifth. Control of the more elementary or simple situations involving subtraction may be established rather early, but one cannot expect satisfactory control of more complicated situations until later. The same is true of any other process. Any effort to "force the pace"—to teach all there is to teach about multiplication, say, in one dose—is almost certain to lead to bewilderment, frustration, and rebellion. Even if it does not have that effect, even if the pupils seem able to "take it" and develop a seemingly satisfactory control of a unit of instruction, they will relapse when pressure is removed unless a great deal of time is spent on "maintenance" work.

Most slow learners will take to arithmetic quite readily if they are not forced into it too early or through it too rapidly. Marked dislike of the subject, accompanied sometimes by rather severe emotional disturbances, or the need of excessive amounts of maintenance work, are

fairly good signs that the work is over the pupils' heads or that the pace is too fast. A generous amount of time spent on arithmetic readiness during the first year or two, introducing the pupils to the mysteries of the number system informally and casually, will go a long way toward avoiding emotional upsets and the need for a great deal of remedial work.

Practice Materials. One should not hesitate to use practice materials generously, although of course the pupils' activities with such materials should never be allowed to degenerate into perfunctory routine. One should remember that mere practice in and of itself teaches nothing (except possibly dislike for the subject). Practice should come only after the pupil understands what he is doing and sees the need for the practice, that is, to refine, perfect, and habituate a process. If homework cannot be avoided, it should always consist of practice on things the pupil already understands. He should never be assigned "originals" or problems involving new processes. As with reading, a great deal more practice will be required by a slow learner than by a rapid learner. Where two examples may suffice for the rapid learner, twenty will be needed for the slow learner.

There are numerous arithmetic games which delight slow learners and provide effective practice in processes they can use every day. These should be used generously, but not to the point of monotony, or to the neglect of other important matters. Numerous routine activities of the classroom also afford practice in arithmetic—keeping records of height and weight, the weather, the supplies, and the group's budget for incidental expenses.

The Use of Crutches. One matter that often causes teachers of slow learners some concern is the use of "crutches." Many are loath to permit the use of devices or crutches of any kind lest they interfere later with the pupil's efficiency. While there is considerable difference of opinion among authorities on the matter, it is safe to say that in general the teacher of slow learners not only may but probably should be very tolerant in his attitude toward such aids. One must remember that after all effective control of any process or function in arithmetic depends upon some insight into the matter and that there are in most cases several levels of insight and control. The use of such a crutch as "marking out" in subtraction, for example, seems to facilitate insight into the process and helps to give the pupil a mastery and attendant sense of security that come only very slowly, if at all, by the more

sophisticated method of performing the operations entirely "in one's head." Most pupils tend to abandon such crutches in due time, either on their own initiative or with a little encouragement to do so. There is no great risk, therefore, in their using at the beginning or on the lower levels devices that at higher levels might interfere somewhat with speed and efficiency. Moreover, speed is after all not a major consideration with slow learners; accuracy is far more important. Even if the use of a crutch persists after most other pupils have long since abandoned it, the fact need not cause great concern if the device helps the pupil to be more accurate and to enjoy greater security.

Standards of Expectancy

In arithmetic, as in reading, one may secure a reasonable guide to what to expect in the way of achievement by comparing the pupil's arithmetic age scores with his mental age. If the two are within six months of each other, the pupil is "up to grade." This comparison should be made as the first rough test in deciding which pupils need supplementary attention or remedial teaching. Such comparison should be made at reasonably frequent intervals—at least twice a year. In addition, one must be constantly alert to signs of difficulty or poor habits that are sure to cause trouble if they are not cleared up at once.

In summary, then, the teaching of arithmetic to slow learners is not essentially different in character from teaching arithmetic to other children. A very generous period of time must be allowed for an "arithmetic readiness" program having as its purpose the development of a rich fund of informal experience with functional uses of number. This is essential background for more formal systematic instruction later on. Richness of experience with a few essential processes and concepts is to be preferred to a "smattering of ignorance" about many things.

Additional suggestions for teaching arithmetic to slow learners will be found in the following books:

Brueckner, Leo J. and Grossnickle, Foster E. *How to Make Arithmetic Meaningful.* Philadelphia: The John C. Winston Company, 1947.

Rosenquist, Lucy. *Young Children Learn to Use Arithmetic.* Boston: Ginn and Company, 1949.

Spitzer, Herbert F. *The Teaching of Arithmetic.* Boston: Houghton Mifflin Company, 1948.

CHAPTER VI

How to Help the Slow Learner with His Personal Problems

A GREAT many things a teacher of slow-learning children must do, or try to get done, fall outside the range of the usual conception of instruction. They are the kinds of things that force a teacher to become to some extent a social worker, concerned with family problems and situations of his pupils, and to some extent a psychological counselor, concerned with the highly personal mental and emotional problems of his pupils. These problems often cannot be solved through the ordinary group activities of the classroom. They may be too personal and private for public consideration; often they require direct and explicit dealing with the very special circumstances in which an individual pupil finds himself rather than with circumstances in general. The teacher must cultivate in the school the kind of group interest and solidarity and general "psychic atmosphere" that promotes emotional security, "belongingness," and a feeling of achievement and success. He must also be a counselor, friend, and general advocate for each pupil as an individual.

Some of the things a teacher has to do may seem to be properly the responsibility of parents or of other community agencies and institutions. The fact remains, however, that there is no one closer to a child than his teacher. No one is in a better position to see that the things he needs are provided, or at least that his needs are brought clearly and forcefully to the attention of those who are finally responsible for supplying them. No teacher can escape being concerned with his pupils' personal problems, for they condition and influence everything else the pupil wishes or tries to do; therefore every teacher who truly

wishes to educate "the whole child"—to promote the growth of a wholesome, well-rounded personality—will concern himself with everything that in any way bears upon the pupil's living and learning, whether it is a matter of home and family arrangements, community activities, or personal adjustment. He will do everything he can to see that needed action is taken to improve the circumstances, no matter whose the final responsibility for action.

PROBLEMS ARISING FROM HOME CONDITIONS

Unwholesome Family and Neighborhood Conditions

It is common knowledge that a large percentage of slow-learning pupils come from the socially and economically less fortunate families of the community. Furthermore, the general competence of parents in providing the basic requirements of children for adequate food, clothing, shelter, dental and medical care, and wholesome out-of-school recreational and leisure-time activities is often conspicuously low in such families, both because of lack of financial resources and because of lack of knowledge of what children need. In addition, such families often present a psychological and social environment that is not conducive to the physical, mental, and emotional well-being of children. Parental disharmony and conflict, even parental viciousness and immorality, are all too common elements of the home life of slow-learning children. General neglect, rejection, persecution, and even physical violence are not unusual. And when there are several children, jealousy, excessive fighting, and general turmoil are often present.

Unwholesome conditions in the family itself may be made doubly bad by the general poverty, if not viciousness, of the neighborhood. Overcrowded housing forces children into the streets; many of them go there by preference because of the tension, strife, and general unattractiveness of their households. Lack of suitable space or facilities for more constructive activities, as well as lack of supervision or guidance, often makes the anti-social and destructive enterprises of the typical street gang inevitable, because children, even slow-learning children, must have something to do. Furthermore, in some neighborhoods, there exists a general climate of opinion that places a premium of social approval on malicious mischief, such as robbing the corner fruit stand, breaking windows and general hooliganism.

This is, of course, the seamy side of the picture. Not all slow learn-

ers by any means come from such family and neighborhood environments. The teacher alone may be powerless to prevent or correct such conditions, but he must be aware of their existence. They have a good deal to do with the quality of his pupils' behavior at school. The ill, the underclad, the malnourished, the hungry boy or girl is able to put but little effort or enthusiasm into school activities, or to get much from them. The boy or girl who comes to school fresh from a family row or brawl, or beset by continual fear of his father or mother, or who suffers continuously a feeling of rejection, persecution, or unworthiness, is in a poor state of mind for wholehearted, positive cooperation with his classmates or with his teachers. The pupil whose whole experience of life outside school is with its shabby, brutal, sordid, and anti-social aspects may need more in the way of firm guidance and discipline than can be had from the "public opinion" of his classmates, invaluable as that is.

Home Visits Essential

The correction and even the amelioration of such unwholesome conditions must often be accomplished by the relief and welfare agencies of the community—even by the police in some instances. Nevertheless, the teacher is often the one who succeeds in getting action when all others fail. In many cases he is the only person sufficiently concerned or informed to bring the need forcibly to the attention of those who are responsible for meeting it. So he must not shrink from visiting such homes and such neighborhoods. It is important to know what one's pupils are up against even if one cannot do much but accept conditions as more or less inevitable and irremediable. Sometimes, however, possibilities of constructive help arise even in the least promising situations. "How do you cook oatmeal, anyhow?" "Where *is* this free clinic that will take care of Mary's teeth or fit Johnny with glasses?" "I didn't know Tony was running around with that worthless Jones boy." These are merely suggestions of the kinds of situations about which something may be done through a friendly visit, when one is able to establish a feeling of mutual confidence and respect.

Of course, getting into such homes in the first place is no easy matter in many instances—foreign language difficulties, resentment of prying and snooping, suspicion of the teacher's motives and sincerity of purpose—these and many other factors may interfere. In most cases, however, families welcome the teacher if they are once convinced he comes

in the interest of the child—wishing to help rather than merely to complain. Careful avoidance of preaching, a patronizing manner, or any signs of disgust, dismay, or annoyance is imperative.

The Slow Learner in "Better" Families

Fortunately, of course, not all homes from which the pupils come are on a low economic level. But homes which provide a reasonably adequate economic environment are not necessarily wholesome from a psychological or emotional standpoint. The slow learner who has brighter brothers and sisters is often neglected, if not actively persecuted—often quite unintentionally. School marks and other paraphernalia of an overly competitive school situation may be the cause of much emotional strife and conflict at home and may make life there miserable for a slow child. Adequate food and clothing, medical attention, and the rest are not enough by themselves. Oftentimes the parents in such households are not aware that they are unwittingly increasing the difficulties of their slower offspring by praising the brighter children and by heedless remarks to the effect that "That's all one could expect from Sammy." As was said previously, while the teachers may not be prepared, or able if prepared, to effect substantial changes in the home and family situation, it is important, nevertheless, to know what the situation is. Such knowledge may suggest the need of special efforts to see that this same Sammy has abundant experience of security and success at school to compensate for lack of it at home. Sometimes, however, one can accomplish a good deal by indirect means—perhaps by personally inviting the mother to join the parent education group which meets at the school (or elsewhere), by suggesting a few magazine articles or some of the better books or pamphlets for parents on problems of home and family relations.

The Overprotected Child

One may encounter, too, in such families, the reverse set of conditions—the situation in which a child is overprotected and prevented from arriving at a realistic understanding of himself and a mode of life based realistically on his actual powers. Too much assistance with homework (where homework is still the practice), too much praise for meager achievements, too much preventing the child from embarking on activities that are very likely to result in failure and disappointment, too much sympathy with the child who thinks the teachers are

picking on him or that his classmates are trying to make him appear stupid, too little patience in allowing the slower child to take the time he must take and make the mistakes he must make in order to learn to stand on his own feet even reasonably firmly—all these are common enough in households that know that Johnny or Mary is not quite so bright as the other children, but are unable to accept honestly and realistically the consequences of their knowledge.

Here again, the teacher may not alone be able to effect much change in the situation. Such a state of affairs may suggest the need for special effort to see that an overprotected child has to take some responsibility at school; that he is not given help in getting out of tough spots the moment he begins to flounder or whimper; that he is not praised for slipshod and indifferent work which is less praiseworthy than one has good reason to expect; that he is not unwittingly encouraged to wear his heart on his sleeve, or to weep on the teacher's shoulder at every imagined slight or injury to his feelings.

Need for Caution in Working with Families

On the whole, unless the teacher is pretty well informed on child psychology and parent education, he should be very cautious about making diagnoses or prescribing remedies in situations involving the emotional relations of parents and children. A little knowledge may often be a dangerous thing. It is better to call to one's assistance, if available, such special workers as the psychological counselor, the nurse, the visiting teacher, or even the home economics teacher if the latter is trained in home and family relations. It is important not to jump to conclusions, on the basis of one or two brief visits, about the situation. As one comes to be well acquainted with the children, and establishes rapport with the families, signs and evidences of the general adequacy or inadequacy of the home will be more apparent.

PROBLEMS ARISING FROM THE SCHOOL SITUATION

There are in addition some pupil needs within the school situation that often require rather special attention—more than may necessarily be given as relevant phases of the general group activities.

The "Isolate"

The slow pupil is often an "isolate." He lacks friends and associates; he is a lone wolf on the playground and in the general goings and

comings about the school. He is nobody's best friend, nobody's pal. Either he stays in at recess, merely hanging around, or thumbing idly through some book or magazine, or, if outside, he sits on the side lines or lurks about the edges of such group games and other group activities as may be in progress. He is in the group but not genuinely of it; he is seldom chosen to be on anybody's committee except by default; he is never asked to be a leader or chairman; and he usually is a silent member during any period of free discussion or sociable chatter.

The "isolate" may be suffering from many disturbances. He may be excessively timid and shy because of previous and dismaying experiences of rejection and persecution by groups with which he attempted to be friendly. He may be isolated from normal rough-and-tumble association with children in the neighborhood during out-of-school hours, either because he is an only child, because he lives on a street or in a locality where there are few children of his age, or because of family attitudes and regulations that interfere with normal contacts. On the other hand, he may simply not know how to associate with other children; he may not know how to do the things they do, play the games they play, sing the nonsense songs they sing, or use any of the common techniques of association which are essential to group activity, group belonging, and group solidarity.

Normally, a teacher soon becomes very much aware of the "isolate" in the classroom and takes steps to facilitate his socialization. He may be isolated because he cannot read well enough for social approval in the group; he is then helped to improve in reading, or is given the opportunity to carry on some compensating activity, such as running the projector, looking after the aquarium, or caring for the supply room. He may be isolated because he is much larger or much smaller than most of the other children; he should then not be asked to engage in dramatizations, or pantomimes, or other activities that "offend his dignity"; or if small, he is given a "handicap" in all matters where size is a factor in prowess. He may be isolated because he does not have the "proper" clothes or other belongings that are essential for status, or because the clothes his family provides are conspicuously out of harmony with "the fashion." Nobody wears pigtails except Mary, so she's queer. Can you tactfully suggest to Mary's mother that Mary would be much happier and more acceptable if she were permitted to cut her hair? Everybody wears a ski cap with ear muffs

except Johnny, so he is "out." Could you perhaps suggest to Johnny's mother that a new ski cap with bright blue, woolly ear muffs would do worlds for Johnny's mental hygiene? If not, perhaps you could obtain a small sum of money from the school's "relief or contingent fund" for such a purpose. After all, a new ski cap for Johnny may be as important as a pint of milk for Susan.

One must not, of course, overdo trying to facilitate the socialization or group integration of the isolated pupil; one may thereby give him a reputation of being "teacher's pet" and so defeat the whole purpose. No one is so completely beyond the pale in the average group's opinion as the pupil who is too conspicuously or continuously the object of the teacher's solicitude.

The "isolate" is fairly easy to spot in the classroom activities, where one is in close contact with the entire group over reasonably long periods of time. But success in overcoming, or at least in improving, the situation there is no guarantee that isolation has been overcome outside—on the playground, in the neighborhood, after school, and over the week ends. It is important, therefore, to study the pupil's activities outside of school as well as in. Does he belong to any school clubs? Any out-of-school clubs? Does he go to the public parks and playgrounds with children of his age? Does he know about the opportunities for active and useful group activity—Boy Scouts, Girl Scouts, Junior Red Cross, Police Athletic League, Junior Y.M.C.A., etc? Is he a participant in any of the "character-building" activities carried on by his church or church school?

The teacher is the one best equipped to learn the facts about the pupil's activities and probable needs in the matter of social and group life. He is often in the best position to put the pupil in touch with opportunities for a more abundant social life outside of school. He can at least call the pupil to the attention of those agencies in the community who are actively engaged in efforts to socialize all pupils—slow as well as bright. He can follow up and see that contacts are established. The teacher is also usually in the best position to exert a kindly pressure on the timid or indifferent pupil to put forth a little effort himself in the pursuit of pleasure and happiness. The teacher may have to take considerable responsibility himself for organizing "extra-curricular" activities—parties, clubs, dances, games, picnics, and the like—in school and out, if the community resources are meager.

The Insecure Pupil

Isolation and withdrawal from the activities of the classroom, school, and neighborhood may be evidence of persisting feelings of insecurity and inferiority, based upon real or fancied inability to cope with the situation in which most of the pupils are involved. A history of failure, rejection, frustration, and condemnation by teachers, parents, or other pupils often convinces a pupil that he is "no good." The simplest way to avoid such experience in the future, so the pupil thinks, is to avoid situations in which failure and inadequacy are likely to be the result—to avoid taking any chances of doing the wrong or inadequate thing.

Antisocial Behavior. Insecurity manifests itself in many other ways, however. Overcompensation is the commonest way—boasting, bullying, annoying other pupils and the teacher, willful destruction of other people's belongings, unusually severe censure and criticism of others, loud and irrational talking, making "funny noises," wearing eccentric clothes, and the like. These are often nothing more than efforts to get attention and reassurance that one is important and has to be considered. Usually a pupil is not at all conscious of his real motives for such behavior, and very few pupils choose deliberately to be antisocial unless they have been allowed to practice these compensating behaviors so long that they have become deep-seated habits.

The corrective for such antisocial and negativistic conduct is replacement with positive and constructive conduct. The general rule is that "nothing succeeds like success." One must find something positively important for the "nuisance" to do, such as looking after the aquarium, caring for the storeroom or the projector. One must see that there is some phase of the activity or project under way that the bully can carry out successfully and responsibly. It is inadvisable to take away, as a matter of punishment or discipline, all the privileges the rest of the children normally have.

It often requires the patience of Job to get such a pupil to cooperate and put forth any effort. The pupil may be very suspicious of the teacher's motives. He may wish to know what the teacher is trying to "put over" on him if he is given any privileges, responsibilities, or praise, asked to express his views on what activities the group should take up, invited to tell about his own hobbies or interests or activities, or if the teacher takes any special pains to call particular books to his attention or to suggest things he might like to do outside of school.

It requires poise, objectivity, and often a very thick skin to keep such a pupil from "getting one's goat."

The first efforts to meet the pupil on his own ground and take a positive rather than negative course with him may to *him* be nothing more than an invitation for an "all-out" effort to get out of his system his pent-up hatred of life as he has thus far encountered it. There is nothing such a pupil so much enjoys as "getting the teacher's goat," not necessarily because he hates the teacher personally, but because the teacher is the present symbol of authority—authority of position as well as of circumstance—which has persistently thwarted him or set requirements he could not meet. The teacher, of course, is usually the most accessible and vulnerable surrogate for all the people and institutions with which the "incorrigible" would like to get even.

The pupil's first response to the teacher's invitations and encouragements to cooperate may accordingly be rather violent and dismaying. He may overdo his looking after the storeroom and make life miserable for other pupils; he may be too domineering and bossy if allowed to be a leader in games and other activities; he may shock the sensibilities of the teacher and other pupils by revelation of activities and interests and feelings that are not usually discussed in polite circles. Nevertheless, the teacher must keep his perspective and his poise and take enough time to let the pupil get the "poison out of his system" and enjoy abundant importance and authority long enough to establish reasonable assurance in his own mind that he is important. Obviously the welfare of the whole group must be safeguarded, but the teacher should be cautious in exercising restraint or the veto power while the pupil is going through the first rather violent and clumsy stage of doing an about-face and learning how to cooperate.

Other Evidences of Insecurity. Violent, negative, antisocial behavior is not the only evidence of insecurity. Angling for praise, apple polishing, making smart remarks that cause other pupils to laugh, attempts to ingratiate himself with the teacher by offers to help after school, may all be signs of a deep-seated feeling of inadequacy and insecurity. Oversensitiveness, fits of weeping, twitchings and twistings and grimaces, and other evidences of nervous tension, if exaggerated, may also be signs of a persisting sense of inadequacy. These may be a result of a too difficult school or home situation. Many of these are signs of a state of mind and body that only the highly trained physician, psychiatrist, or psychologist can diagnose adequately. Neverthe-

less, the teacher should be sensitive to them and ready to call them to the attention of the proper specialists. He should be especially alert to a persisting tendency for the pupil to withdraw from the group, to be uncommonly reserved or defensive, or generally to skirt about the edges of the group rather than to get in the middle of it.

Usually, a program of classroom activities sufficiently varied in nature but related to common interests so that everyone can be doing something recognized as pertinent and necessary for the common purpose of the group suffices for most pupils. This is especially true if care is taken to make it plain that varied activities, varied contributions, and varied levels of performance are the normal and expected state of affairs, and if time is taken to give a little private or special help to those who "just can't do anything."

SUMMARY

There are dozens of reasons—often illogical, fanciful, and quite subconscious ones—why children feel inferior, inadequate, and insecure, and the reasons that make a child unacceptable in one group may not operate in another group. The foregoing discussion has aimed to suggest a few of the more commonplace and obvious situations and conditions a teacher of slow-learning children needs to have in mind, and a few "garden-variety" kinds of things that may be done about them. More scientific, painstaking, and detailed study of the personal needs and problems of children may be required in some instances. Help should be sought from such specialists as are available. The teacher can enrich his own understanding of and equipment for dealing with this phase of his work by careful study of one or more of such books as the following:

Crow, Lester D. and Crow, Alice. *Mental Hygiene in School and Home Life.* New York: McGraw-Hill Book Company, 1942.

Klein, David B. *Mental Hygiene.* New York: Henry Holt and Company, 1944.

National Education Association. Association for Supervision and Curriculum Development. *Fostering Mental Health in Our Schools.* Washington, D. C.: The Association, 1950.

Prescott, Daniel A. *Helping Teachers Understand Children.* Washington, D. C.: American Council on Education, 1945.

Driscoll, Gertrude. *How to Study the Behavior of Children.* New York: Bureau of Publications, Teachers College, Columbia University, 1941.

S.C.E.R.T., West Bengal
Library
Calcutta

CHAPTER VII

How to Teach the Slow Learners in Junior and Senior High School

DEVELOPING a suitable curriculum for slow learners is a considerably more difficult matter in the junior and senior high schools than in the elementary schools. Junior and senior high schools are much more firmly bound in the straight jacket of academic convention and tradition and hedged about by external rules, regulations, and requirements than elementary schools. College entrance requirements, the traditions of academic scholarship, and the procedures of most school inspecting and accrediting agencies combine to maintain a highly fragmented, compartmentalized, formalized, and non-functional curriculum. Moreover, traditions of academic respectability make it difficult for such subjects as the commercial studies, industrial and fine arts, home and family life, and the like to compete on even terms with the old-line subjects, such as English, mathematics, science, history, and foreign languages. The traditions, combined with the fallacious idea that slow learners are primarily hand-minded, tend to force the slow learner into the more practical subject departments and to diminish even more the academic respectability of such subjects. The fact that junior and senior high schools have been reluctant to accept slow learners and make a serious effort to adapt instruction to their capabilities and requirements has tended also to retard the development of suitable materials of instruction and other resources. There is not, for example, the wealth and variety of books and other printed materials that one finds in the libraries of good elementary schools.

It is hardly germane to the purpose of this chapter to go into further detail as to why the typical junior high school or senior high school

leaves a great deal to be desired as a suitable place for the instruction and guidance of slow-learning youth. It will be more profitable to turn directly to the question of what can and must be done in the junior and senior high schools to develop a suitable curriculum for slow learners. The problem as a whole can be brought into focus more quickly by a few statements about what can *not* be done.

WHAT CANNOT BE DONE IN JUNIOR AND SENIOR HIGH SCHOOL

1. There are no means by which a conventional curriculum made up of such academic subjects as English, mathematics, science, history, stenography, bookkeeping, and the like can be taught to slow learners.

A subject *as taught* consists of three related variables—content, method, and learner. Each variable is capable of an amount of variation independently of the other, but only a *limited* amount. If the prevailing method of teaching is the lesson-hearing method, content can vary within rather wide limits, set primarily by the ability of the learner to "learn" the subject matter. If, however, the content is "fixed," that is, a prescribed body of subject matter to be mastered by all learners, method may vary perhaps from "taking the next five pages" at one extreme to "contract assignments" at the other. Within the possible limits of variation of method under such circumstances, there are particular methods that are better suited than others to the characteristics of slow learners. But the greatest possible amount of variation of method within the limits fixed by a predetermined body of subject-matter-to-be-learned will not alone suffice. The reason is that some subject matter, which is readily learnable, entirely valid, and highly functional for average or bright youth is completely unlearnable, highly non-functional, and therefore completely invalid for the slow learner.

2. It is impossible to change the curriculum enough to meet the needs of slow learners without changing the standards for marking, grades, promotion, and graduation.

For any subject which all pupils in a school are required or expected to study, there is not and never can be a single standard of achievement or performance that can be defensibly set as the sole basis for marking, credit, or graduation from school. What was said about the variability of the human material in Chapter I and the need for

flexible standards in Chapter V applies equally to youth of junior and senior high school age. Not all subjects taught in junior or senior high school, however, should be thrown wide open and "diluted," as some would say, so that all kinds and varieties of youth can earn passing marks and credits toward graduation in them. Not all subjects should be studied by all pupils in the first place. Instruction in all subjects that are assuredly necessary for the purpose of general education—without regard to specialized vocational or avocational needs and interests of particular youths—must of course be provided for all youth, and the attainments of all youth in such subjects must be evaluated on the basis of very broad and flexible standards. But all subjects that are demonstrably limited in their educational usefulness, that are adaptable only to particular levels of ability or need, and that are chosen for particular and specialized purposes obviously should be evaluated on the basis of standards that are appropriate to the circumstances. A youth who can never hope really to learn anything from a course in college preparatory chemistry has no business in the course in the first place. College preparatory chemistry should be restricted to those for whom it is an appropriate experience, and the standard of evaluation should be established accordingly. There is a good deal of subject matter in the field of chemistry that is useful and perhaps even necessary for purposes of general education, but such subject matter does not have to be learned exclusively in a course in college preparatory chemistry. It can and should be learned in a context—perhaps a course in general science—that is appropriate for purposes of general education and suited to the needs and characteristics of *all* youth.

3. *It is impossible to develop a suitable curriculum for slow-learning youth on the basis of the pattern or design of the conventional subject-organized curriculum.*

There are three principal but closely related reasons for the inadequacy of such a curriculum design for slow-learning youth. The curriculum experiences of slow learners must resemble very closely the pattern or form in which experience naturally occurs outside the school. This is necessary in order to facilitate the process of transfer, reconstruction, and generalization by which school experience is made "psychologically available" for solving problems of living. One must approach the designing of school experiences on a naturalistic, whole-problem or life-situation basis, rather than on the artificial, part-prob-

lem, academic-situation basis of the conventional curriculum. In dealing with slow learners, the boundaries of the subject matter fields have to be ignored so that subject matter can be drawn from any and all fields appropriate in developing a learning activity that is life-centered and organized on a whole-problem or functional basis.

A word of caution is in order here. With slow learners, it is not necessary to go to the other extreme and insist that every learning enterprise shall include subject matter from each of the conventional fields—a little mathematics, a little science, a little history, a little art, and all the rest. While "natural" or "lifelike" or whole-problem learning activities do not ordinarily conform in design or content to any one of the subject-matter fields taken separately, neither do they conform to all of them taken together. The principle of selection is to draw from those fields that are germane to the purpose and scope of the particular learning enterprise. Obviously such a principle cannot be broken down into specific rules that apply without exception to every learning enterprise. Teaching and learning still require insight and judgment on the part of the teacher as well as the learner.

The second, and closely related, reason for the inappropriateness of the conventional curriculum organization for slow learners is that the fragmentation of the day and week tends to preclude the generous use of direct observation, participation, and other features of first-hand experience. Field trips as well as in-school activities that require a substantial block of time for effective organization and development are minimum essentials for slow learners. They cannot be managed when the longest period of time available in any one day for activity related to a particular purpose or interest is an hour or less.

The third reason why the conventional curriculum organization is inappropriate for slow learners is that it tends to scatter and impersonalize the guidance function. Departmentalized instruction and guidance imply that each teacher teaches primarily only one specialty. This means that each inevitably teaches many different pupils, and that any particular pupil inescapably has many different teachers during the course of a day or week. From the teacher's point of view, departmental specialization increases the difficulty of knowing the pupils well enough to adapt instruction to individual needs and abilities and also increases the tendency of instruction and guidance to become formalized, routinized, and impersonal. From the pupils' point of view, departmental specialization increases the difficulty of knowing

the teacher and other pupils well enough to achieve the feeling of security and adequacy essential for effective learning. Rapid and frequent "shifting of gears" from one teacher to another and from one group to another places a severe strain on the mental and emotional adaptability of the slow learner.

Here again, a word of caution is in order. Reducing the amount of departmentalized instruction and guidance does not require going to the other extreme and placing the slow-learning youth exclusively in charge of one and only one teacher. Such an arrangement is defensible with young children, but by the time the slow learner is of junior or senior high school age, his adaptability should have increased and he should be ready to include in his daily life a greater variety of persons, circumstances, and interests without being thrown into intellectual confusion, or emotional turmoil. Nevertheless, a substantial reduction in the variety, complexity, and usual inconsistency of the personal relations of a typical junior or senior high school is desirable.

ORGANIZING THE SLOW LEARNERS' SCHOOL LIVING

The desirable situation for the slow learner, when he comes to the junior high school for the first time, is to find himself in an environment very much like the one he was accustomed to in the elementary school. This means that the slow learner will find himself assigned to a homeroom, with a group of youngsters of about the same age, which will become home base, operationally, for approximately half of his classroom activities, and home base, in the planning sense, for substantially all school-wide, extracurricular activities. Lockers for his clothes and other gear will be in the immediate neighborhood, and while he will, as he did in elementary school, go to the library, the auditorium, the lunchroom, and the office for part of his activities, a substantial part of his contacts with library and office (at least the personnel management and guidance function) will take place in his homeroom.

Whether he should find himself in a group of children that are all slow-learners like himself, or in a mixed group, will depend greatly on local circumstances. The considerations that must be taken into account in making a decision are about the same for him now that they were in the elementary school. These were discussed in Chapter III and need not be reviewed here. One particular factor is of special importance, however. As children grow older, they become more variable. Consequently, it will be relatively more difficult, even during the

first year of junior high school, to plan curriculum activities that are effectively adapted to all the needs of all members of a mixed group than was the case in the elementary school. It will require a teacher of great versatility and resourcefulness to function effectively with mixed groups, and unless such teachers are available, it will probably be wise to resort to some measure of ability grouping.

But while the greater variability of the human material at this age level ordinarily permits the formation of ability groups with more widely separated central tendencies in intellectual matters, such as reading and arithmetic reasoning, such ability groups are also likely to be very diverse and scattered in the range and variety of their interests and abilities along other lines. However warranted ability grouping may be in particular schools, for those activities that depend largely on reading, such ability grouping will not ordinarily produce effective groups for all the other activities that belong in the curriculum. For physical activities, a particular youngster will need to be grouped with others of about the same size and strength; for social activities, with others of about the same physical and social maturity; for art, with others of comparable talent, background, and interest. To form such groupings, the school may have to cut across lines of ability and also across those of age and grade. A thirteen-year-old who is big and strong for his age may need to be grouped with fifteen- or sixteen-year-olds who are perhaps not so big or strong for their ages for any activities in which strength and size are major considerations. To find a group in art or shop work, in general science, or in any of the other parts of the curriculum outside the normal scope of the homeroom program with which a particular seventh grade youngster can work most advantageously, the school may have to assign that youngster to a group most of whose members are nominally eighth or ninth graders.

HOMEROOM ACTIVITIES

Whatever kind of group the individual slow learner finds himself in when he first comes to junior high school, he should find that his curriculum is organized so that he spends about half of his time on activities localized in his own homeroom. His homeroom activities should be, in character, about like the activities suggested for the upper years of the elementary school, but with somewhat greater difficulty, variety, and maturity and with longer periods of sustained attention and independent action than were possible earlier. How much greater

will naturally depend on particular individuals, and on the resources of school and community; but one should normally expect that slow learners will have matured somewhat, and that they will continue to mature in their ability to undertake more complex activities, to take account of a greater variety of factors, circumstances, and regimens in planning this work, to generalize and apply with greater perception, and to "keep their eyes on the ball" more certainly and for a longer period of time than when they were "mere children." The activities should be planned naturally, that is, in terms of natural, lifelike needs, interests, and problems—without special thought to which particular "subjects" are being studied. In order to break the academic stereotype in the mind of the pupil, or obviate its development, it is advisable to adopt from the beginning some other name that applies to the homeroom activities as a whole, such as "general studies" or "basic living" or even "homeroom activities." If, for administrative reasons, deference must be paid to the academic traditions, such activities can be recorded (but not publicly reported) as English, science, social studies, and mathematics. These are the chief sources on which the homeroom activities will draw, although there will of course be occasions on which they will also draw, desirably if not inevitably, on art, music, dramatics, psychology, and perhaps other "subjects." But whatever name is adopted, whatever records are kept officially, the idea must always be kept clearly in focus that the homeroom activities are not designed to "integrate the subjects" but rather to teach the pupils —in terms of natural, lifelike, "whole" problems and interests.

There is no unique list of topics, problems, or interests to serve as "focal points" for the homeroom activities of slow-learning youths. As has been pointed out in a previous chapter, they are interested in and "allergic" to about the same things as other youth of comparable age and maturity. Keeping in mind that their intellectual powers limit the complexity, difficulty, and abstractness of their activities, and also the importance of practical, fairly obvious, and directly functional activities, one can pick and choose from the lists of suggested activities curriculum workers have found useful for the rank and file of youth. The following "problem areas" are selected and adapted from a somewhat longer list proposed by Alberty [1] as a basis for developing the so-called "core curriculum."

[1] Harold Alberty, *Reorganizing the High School Curriculum*, pp. 174-175. New York: The Macmillan Company, 1948.

1. The Area of Personal-Social Problems
   For junior and senior high school (selection and development influenced chiefly by considerations of interest and maturity)
   Orientation to the School, Living in the Home, Making and Holding Friends, Boy-Girl Relationships.
2. Immediate and Wider Community Problems
   For junior high school
   Living in the Community, Community Agencies or Services, Community Recreation, Community Citizenship, Communication and Transportation, Community Planning and Beautification.
   For senior high school
   Community Survey, Community Health, Community Planning, People of Other Lands, Propaganda and Advertising, Public Opinion, Races, Ethnic, Religious, and Class Groups.
3. Wider Socioeconomic Problems
   For junior high school
   How People Make a Living, Community Industries, Earning Money and Budgeting.
   For senior high school
   Selecting a Vocation and Getting a Job, Getting Your Money's Worth (Consumer Education), Conservation of Resources, How Science Changes Our Ways of Living.
4. Personal Development Problems (might well be combined with personal-social problems)
   For junior high school
   Maintaining Good Health, Personal Appearance and Grooming.
   For senior high school
   Personal Development, How We Learn, How We Get Our Beliefs, Personal Planning.

If such a list as this seems perhaps too bookish, verbalistic, and intellectualistic for a particular group of slow learners, the teachers could do far worse than to adopt, or adapt, the list of desirable "focal points" outlined in Chapter IV as the basis of determining the scope and sequence of the homeroom activities.

The "homeroom" or "general studies" type of activity should continue to be a conspicuous feature of the slow learner's curriculum throughout his stay in junior and senior high school. The amount of time devoted to school activities may well decrease somewhat during the later years, depending on what else the particular school is able to offer in the way of profitable learning experiences of a more specialized kind, but it is extremely doubtful whether the homeroom type of activity ought ever to be permitted to drop out entirely.

EXPLORATORY AND ENRICHMENT ACTIVITIES

What other types of activity should be provided? When the slow learner first comes to the junior high school, he should in addition to his major homeroom activities have an opportunity for physical activity and play, making use of space, equipment, and facilities much more extensive than can be provided in his homeroom. This means a period each day for organized, though not formalized or routinized, "physical education," usually under the direction of a special teacher. There is obviously no objection to such activities being under the supervision of his "homeroom teacher" if the homeroom teacher happens to be competent to direct such activities and not otherwise engaged. Ordinarily, however, such activities mean a different teacher because the pupils making up a particular homeroom group are not necessarily—in fact not usually—the ones who make up the best groups for physical activity. Block scheduling or any other device resembling the platoon scheme of organization will not suffice if serious effort is made to adapt instruction to group as well as individual characteristics.

The rest of the pupil's time, not counting time he may need to spend in highly individualized corrective or remedial work, should be devoted to activities best described perhaps as exploratory or enrichment activities of various sorts. These may need to be organized and programmed in terms resembling the school subjects—art, music, science, and the rest—since a measure of specialization of the teacher as well as of space and equipment is necessary. But the kind of specialization that is necessary and desirable is NOT the kind, found in too many junior or senior high schools, that presupposes academic or vocational specialization by the pupil. The purpose of such activities is to initiate or cultivate already existing interests beyond those that have heretofore been possible in the elementary schools and beyond those that are likely to be possible in the homeroom activities. Their aim is to open up for the pupil avenues of experience, of discovery, achievement, and self-expression hitherto unknown or inadequately explored by him, and help him find for himself resources for constructive use of his talents for leisure time and perhaps vocational goals.

For the school as a whole, such opportunities need to be fairly diversified if slow learners as well as average and bright ones are to be well served. The diversity need be limited perhaps only by the resources of the particular school and community, for in any fairly large

group of youngsters of diverse talents and background the range and variety of valid interests and curiosity is as broad as life itself. The range of choice for a particularly slow learner will of course be considerably restricted, both because of his own personal characteristics and talents and because he has only a restricted amount of time and energy available for such activities. With the great majority of slow learners, their already somewhat developed interests are likely to lead them chiefly into manual arts, homemaking, and closely allied activities, but "already somewhat developed" interests must not be taken as the exclusive criterion. Probably most slow learners should be encouraged to "take" something that might be called junior business training —not merely those who are "sure" they want to be secretaries and business managers—because such a "subject" if properly taught on the exploratory basis has not only a personal utilitarian value but a genuine finding and self-discovery value. The world of business to which junior business training is presumably related is not populated exclusively by secretaries and executives. It also includes shipping clerks, package wrappers, and a host of other less glamorous but quite necessary workers. The slow-learning youth who has learned from intelligently directed exploratory experience with the business subjects that he can function vocationally only at the level of package wrapping has a perfect right nevertheless to feel that he too is "in business." For that matter, why should not the youth who finds from intelligently guided experiences of an exploratory sort that he can function vocationally perhaps at the level of hospital orderly feel that he too is in "health conservation" or perhaps even "in medicine"?

Exploratory activities that have an obvious relation to eventual vocational choice are not, however, the whole story. After all, most people spend a relatively small portion of their total time and energy as adults, working at their jobs. A very considerable part of their time and energy is, or might well be, spent on somewhat less utilitarian or non-vocational activities that are quite as interesting and worth-while for the development of a well-rounded personality and good mental hygiene. Consequently, the whole range of human activity, so far as it is manageable by the school, ought to be opened up for exploratory type experiences, for the slow learner quite as certainly as for any other—*provided,* of course, the openings are the sort the slow learner can get through and provided also that after he is through, the school makes available the kinds of material, instruction, and guidance the

slow learner can genuinely use. The exploratory type course in general science, general mathematics, general language, dramatics, agriculture, business training, homemaking, and all the rest should normally be available to the slow learner, even though all the evidence that is available in advance suggests that he will not learn a great deal from some of the activities beyond the knowledge that he "isn't interested in them" or "they don't make sense" or "I never could do that." In spite of the considerable success the testing experts have had in devising instruments for the assessment of talent and prediction of achievement, they have not yet devised an effective scheme for convincing a slow learner in advance of actual trial that he does or does not have "what it takes" to be a doctor, an artist, or even a scholar.

How departmentalized the organization of the school needs to be for the exploratory part of the slow learner's curriculum depends a great deal on the individual school. Some schools have found it possible and desirable to develop somewhat general purpose rooms, laboratories, workshops, or studios in which a considerable variety of allied activities can be carried on at one and the same time by groups and individuals of considerable diversity of talents and interests. Much depends on the versatility and resourcefulness of the teacher. But even with versatile and resourceful teachers, some degree of specialization of equipment, space, and location is desirable. A well-lighted classroom, with only a little special equipment, will serve fairly well for science exploration, biological as well as physical science, but for a group of allied activities that involve much use of lumber, metals, machines, and noisy tools another room suitably located and equipped is necessary. The "quieter," but perhaps messier arts—drawing, painting, pottery, weaving, leather work, and the like—can perhaps be accommodated in the same space, but of course the musical arts cannot be carried on in such surroundings, except as they are correlated somewhat with the dramatic arts and these in turn with the graphic and plastic arts. There will probably need to be space devoted primarily to the homemaking arts, and, if the pupils are to gain any very substantial exploratory familiarity with agricultural activities, a greenhouse, a garden plot, and some animal shelters will be needed. These activities cannot very well be brought into the homeroom, except for quite incidental purposes. It is always important to remember that it is *the pupil* who correlates and integrates his various experiences by working at *his* music, *his* drawing, *his* stage settings, *his*

garden plot, in relation to *his* center of interest. He does not have to carry on *all* of his related activities in one and the same physical space any more than he has to carry on all his household activities in the kitchen or the living room.

The process of finding out what exploratory type opportunities a school provides, deciding upon a selection for a particular youth from time to time, and programing his choices is of course the normal guidance responsibility of the homeroom teacher. In fact, "exploring what there is to explore" and deciding on a plan for further exploration will be one of the "priority" activities of the homeroom, occurring near the time when actual choices can be made effective, that is, just before the end of the semester preceding, or before the end of whatever period of time is provided in a particular school for programing such activities. In order to provide an early initial experience with several different kinds of exploratory activities it is doubtful if any of them ought to run for longer than eight to ten weeks in the seventh and eighth years. Therefore, when the pupil has had a first sample of about all the school has to offer, and his interests have begun to "jell" a little, or have become more selective, exploratory and enrichment activities of a particular kind might well run for a semester or a whole year. But too great rigidity should be avoided. If in two weeks the evidence is pretty conclusive that Johnny is in water completely over his head in general science, he should be taken out of general science and placed in some other exploratory group in water that is not, or at least is not yet known to be, so deep. If the planning and instruction in exploratory activities are kept flexible, developmental, and personalized in the shops, workrooms, and laboratories, there is no great difficulty involved in taking in a few new group members even though the rest of the group has been under way for some little time. Of course, the latecomers will not cover the same ground as the others. But covering the ground is not the purpose of the exploratory activities.

The exploratory and enrichment type of activity should continue, along with the homeroom type of activity, throughout the slow learner's stay in school. It is not likely that he will exhaust the possibilities of such experience in a school of reasonable size that makes a real effort to open up the cultural heritage to him. As his experience accumulates, certain interests may well become more fully developed and stabilized than others, and one or another of them may be the basis upon which he chooses a vocational specialization. But he should

not ordinarily be allowed to give all his attention to those interests that are most fully developed and that offer most promise along vocational lines, because to do so needlessly narrows the range and variety of contacts he has with the rest of the world. Even the boy who is so dull-witted that he can function in the shop only as "clean-up boy" perhaps ought to spend part of his time as clean-up boy in the greenhouse or in the animal sheds or in the art studio. The people he comes in contact with there might be quite as "nice to know" as the people he has worked with in the shop.

SPECIALIZED ACTIVITIES AND OCCUPATIONAL TRAINING

It is a reasonable expectation that as the slow-learning youth moves along through school, he will become increasingly aware of his own capabilities, limitations, interests and preferences, likes and dislikes. It is to be excepted that certain interests will become clear and strong enough to serve as a basis for at least a tentative and initial occupational choice, so that a reasonable measure of concentrated or specialized attention can be given, before the youth leaves school, to initial preparation for entering the world of work.

Only the largest and best equipped schools can hope to give, under their own auspices, specific occupational training in more than a comparatively few of the 30,000 or so occupations to be found today; but all schools can help youth acquire a realistic and functional knowledge of, and attitude toward, the conditions and circumstances under which all work of all workers is carried on in business, industry, commerce, and agriculture. Regardless of whether a youth eventually obtains employment as a factory operative, as a minor clerk or other routine worker in a business establishment, or as a relatively unskilled common laborer, he is subject to the same sorts of controls and supervision by government agencies, labor unions; has the same sorts of moral and ethical responsibility to his employer and his fellow employees; and is entitled to the same sorts of benefits as those who eventually find employment in the professions, the managerial occupations, and the skilled trades. The body of "subject matter" pertaining to the world of work that is common to all workers, whatever their specific occupational roles, is in fact very much larger than the body of subject matter that is specific to particular occupational roles. This common body of subject matter should receive constructive and realistic attention in the

homeroom activities, for the purpose both of seeing that youth acquires essential knowledge about the world of work and of cultivating constructive and wholesome attitudes.

The nature and the variety of specific occupational training that can be made available to the slow learners will be determined largely by the resources of the particular school and community. Most occupations, including substantially all of those in which slow learners may reasonably hope to succeed, require comparatively little specific or technical training in advance of initial employment, provided, of course, that the prospective worker has the basic, foundational, and general orientation to the work world mentioned above. The nature of the work to be done and the specific conditions under which it is to be performed are so specific to particular industries and industrial establishments that the technical processes and routines are best learned on the job or in specialized schools and classes closely allied to the particular industries. These circumstances, however, are no warrant for a school's adopting a "do-nothing" policy regarding occupational training. The young person who has developed considerable skill in one or more of the processes of the workaday world always has an advantage over the young person whose only salable assets consist of a strong back and willing hands. Therefore, there should be no hesitancy about giving the slow learner all the opportunity he is willing and able to take in school to develop skills in manual and industrial arts, in typewriting and record keeping, in agriculture and allied fields, in the food trades and household and domestic arts, for through such opportunities he may gain not only some initial understanding and appreciation of the moral, ethical, and psychological aspects of work with materials and tools, but also some actual skill that will stand him in good stead when he begins looking for a job.

Obviously the work patterns, skills, and insights gained in a small woodworking shop in school will not "transfer" 100 per cent and enable the young person to begin functioning in the world of work as a journeyman, or even an apprentice, carpenter. But it would be ridiculous to contend that such patterns, skills, and insights, derived from working with actual materials, tools, and other people have no transfer values at all, and that they will contribute nothing to the young person's opportunities to get a toe-hold in the occupational world where similar materials, tools, skills, and working relations are to be found. Even the dullest youth who, through his school experi-

ence, has learned the names and uses of the common hand tools and how to care for them has a better chance of getting, and holding, a job as a tool-room caretaker than the youth who has never seen a crosscut saw or handled a try square.

WORK EXPERIENCE AND OCCUPATIONAL TRAINING

In providing such opportunities, the school should not overlook the possibilities of using the industries and occupations of the surrounding community as training centers under part-time cooperative arrangements. There is no more reason why a youth should receive school supervision and "credit towards graduation" for learning, under cooperative arrangements, to work as a salesperson in a department store or machine bookkeeper in a bank than for learning how to operate a steam presser or how to be a "grease monkey." The complexity or respectability of the work has nothing to do with the matter. The sole consideration is that of suitability of the work experience for the education of the particular individual.

The need for, and the problem of, developing a program of supervised work experience for slow learners are no different from those of developing a suitable program for abler youth. The same cautions apply. Work experiences provided or arranged by the school should be planned for educational purposes, and supervised, guided, and exploited with such purposes in mind. Work that is provided or arranged primarily for welfare purposes obviously *can* be exploited to some extent for its educational values, but welfare needs should not be the major consideration in arranging work experiences. (If they are, the work should be regarded frankly *as* welfare, and not rationalized as education. Operating a milk delivery route may be a necessary part-time occupation of a youth in order to earn money to stay in school, but no one should be so romantic as to contend that such work has *per se* any very great educational value.) Arrangements for educational work experience must be entered into with full knowledge on the part of all concerned of its purpose and aim, and full appreciation of the obligations each party to the arrangement assumes: the employer to *teach* the learner and pay him a reasonable learner's wage, not merely to exploit him; the learner to assume and discharge fully the normal obligations of dependability, honesty, regularity, willingness to learn and to be taught; the school to evaluate, rationalize, and otherwise broaden and enrich the educational meaning and sig-

nificance of the learner's experience, counsel both employer and learner as needed in regard to particular aspects of the arrangement, and mediate any difficulties that cannot be adjusted in the normal give-and-take of employee-employer relations.

Planning, supervising, and utilizing for educative purposes out-of-school work experience, whether for slow-learning or for rapid-learning youth, is obviously not something that can be done by amateurs, during after-school hours, or in the interstices of time available from other duties. A school had better not undertake such a program unless it is prepared to assign competent and experienced counselor-supervisors to such work as a major responsibility. This is particularly necessary when work experience is used as a major part of the occupational education of slow learners, for they will require more continuous, painstaking, and detailed supervision and supportive guidance and counseling than abler youth normally require. However, in view of the meager resources for occupational education available to most schools under their exclusive control, and the necessity of carrying on the education of slow learners in settings and under conditions very much like those prevailing in "real" life, the desirability of making extensive use of the cooperative work experience type of training, and of employing sufficient and suitably prepared personnel for such work should be seriously considered by any school that wishes to adapt its curriculum to the needs and characteristics of slow learners.

TEACHING SLOW LEARNERS IN "REGULAR" CLASSES

The suggestions offered in the preceding pages may seem to some teachers rather impractical and to offer no helpful answer to the pressing problem of what to do about the ubiquitous slow learner in "regular" classes here and now. Is there no means, some will ask, by which the slow learner can be helped, or *made,* to learn English, social studies, mathematics, and science?

Any teacher who has ever tried to teach slow learners—and who has not?—should know without asking that there is no way in which a slow learner can be *made* to learn anything he does not want to learn or cannot learn. It should be reasonably clear from the preceding discussion that there is no way in which he can be helped *very much* to learn anything that is for him essentially unlearnable. Putting the matter bluntly, there are no means by which a school can hope to do very much for slow learners except by moving in the direction of the

kind and quality of goals and activities suggested in the preceding pages. Opinions may differ on the soundness of certain details that have been suggested, but any one who will consider the evidence thoughtfully and objectively can hardly escape the conclusion that the general approach suggested above is sound. Nevertheless, since the problem of revising a curriculum and reorientating a school is an extremely difficult one, and few teachers can hope to see far-reaching changes brought about quickly in most schools, this chapter will be concluded with a a brief consideration of a few policies and procedures by means of which teachers in conventional schools may expect to improve somewhat the opportunities of slow learners.

Attitude toward the Slow Learner

First of all, the teacher must be able to take a positive rather than a negative attitude toward the slow learner. Instead of tolerating him as a necessary nuisance—as a cross to be borne—the teacher must be able to accept him for what he is and believe that he has a right to the best and most conscientious guidance and instruction that can be devised. The positive attitude is often difficult to maintain because it runs counter to all the traditions concerning the proper materials and methods of youth education and to the prevailing climate of opinion in most communities which persistently and insidiously depreciates any individual who deviates conspicuously from the average. But unless the teacher finds, on self-analysis, that he can maintain a positive attitude, can take pleasure in the slow learner's little successes and derive satisfaction from the knowledge that perhaps a little growth and development in him is as significant as much growth and development in a more fortunately endowed individual, he had better, if he has any choice in the matter, avoid responsibility for teaching him. For without the positive attitude, it is difficult to be patient; to keep one's temper; to avoid scolding the pupils or making sarcastic remarks; to do the meticulous and detailed checking up to see that assignments are carried out; to lead the slow learner almost by the hand through problems and questions involving any substantial amount of reasoning from cause to consequence; to avoid feeling sorry for oneself and apologetic for one's pupils.

Assignments

Assignments must be almost painfully explicit and precise, and when at all comprehensive, written down. They should be written o

the board, as spoken, copied by the pupils in notebooks, and commented on sufficiently so that there will be no reasonable chance of misunderstanding of what is to be done. Such an assignment as "read the material on water and be prepared to discuss it in class" will produce little activity on the part of slow learners. "Read and see how many ways you can find in which water is used" is better, but even then some slow learners will be content with one or two ways, even though the assigned materials dealt with six or seven. "Read the pages from 164 to 175 on water and list five ways in which water is used (I don't mean wash hands, wash face, wash clothes, wash streets, wash floors)" is more likely to result in the slow learner's giving the assignment more than the proverbial lick and a promise. Such general assignments as to "look up" something in a book or in the library are likely to produce disappointing results, for the slow learner's ability to keep clearly in mind what he is looking for, and not be diverted by irrelevant or remotely significant material, is notoriously slight. Assignments requiring imaginative writing will also result in disappointment. The slow learner can write a little about what he has done, or seen, or otherwise experienced, but he cannot project himself with any convincingness into situations he has not experienced first-hand.

Homework

If there *must* be homework, see that the assignments are specific and that they do not require "original" work by the pupils, or going on with something that has been only partially developed in class. Problems in mathematics that are clearly practice of a skill, or a further application of a rule or process already understood, may be given, but it is hazardous to rely on the slow learner's going ahead with new processes or applications on his own. The better answer to homework is to eliminate it and arrange the school day so that needed periods of study can be provided under supervision. In doing this, avoid reliance on general study halls. They serve no useful purpose for the slow learner, except to give him time to catch up with his comics.

Questioning

Questioning is, of course, inescapable in the conventional school where a major purpose is to see that the pupil learns the assigned lessons. Whether used as the skeleton of the assignment or as the issue of the recitation, questioning must be analytical and sequential.

Do not expect the slow learner to jump from a known or given fact situation to a conclusion or inference that is three or four steps moved. For example, such a question from a seventh grade geograp lesson as the following: "Cotton growers and cotton manufacturers the United States have often advocated 'wear more cotton' campaig Would such a campaign probably have any effect on Japan?" will likely to produce either no response at all or some such response "they'll all want to wear cotton." But such a sequence of questions the following may produce some insight and understanding:

If people "wear more cotton" what will they probably wear less of?
Where do some of these things people will wear less of come from?
What one of them comes mostly from Japan?
If people here wear less silk, how can the Japanese sell the silk th manufacture?
If they cannot sell the silk, what will happen to the factories?
If the factories close, how will the people live?

Questions beginning with "what about" or "how about," or imper tives such as "discuss," or "tell about," often elicit no response at all at best a miscellany of more or less irrelevant ideas. "How do you fe about?" is likely to elicit the response "I don't" because "to feel" mea to feel hungry, or sleepy, or tired rather than to have an attitude, conviction, or an opinion.

Questioning should not be limited to simple recall questions of t who, what, where, and when variety. But how and why questio have to be formulated very carefully and presuppose answers that fairly obvious or that can be found by easy and obvious steps reasoning. The often rather tedious process of leading slow learn through even two or three simple steps of reasoning takes time a makes the brighter pupils impatient. But it has to be done, for only way one learns to reason is by reasoning. It goes without sayi that ridicule contributes nothing to the situation.

Visual and Other Sensory Aids

What was said in Chapter III about motion pictures and other visu materials need not be repeated here. Suffice it merely to emphasi the importance of the multi-sensory approach in any lesson where p tures, diagrams, objects, maps, models, posters, demonstrations, an the like can help to give more concreteness and reality to an idea tha can be conveyed by words alone. As a distinguished teacher of his

ory has observed: "Facts spurned by the standard historians may furish the very touch needed to make the misty immortals of history really human. There is a place for the hat Napoleon wore at Leipzig . . . and . . . even the color of the horse that bore Washington at the battle of Monmouth. The point is not that the details of this character are important as history. No sensible teacher would think of having them memorized by pupils. They are details to be used for the moment to stimulate the sense of reality and then to be laid aside. The picture fades; the sense of reality remains." [2]

The importance of such details is often overlooked in the rush to "cover the ground," with the result that the slow learner is dragged over the ground, but little of it adheres to him. Detail takes time and the materials needed to give detail are often bulky and hard to come by. But it is better to give the slow learner a rich, detailed, concrete, and meaningful experience with relatively few topics, problems, and situations than merely to hit the verbal high spots of many matters, none of which remain in his mind after the book has been closed.

Reviews

In a conventional school where covering the syllabus, or the textbooks, is the normal *modus operandi,* once over the ground may suffice for brighter pupils but not for the slow ones. There should be daily reviews as long as the subject matter is building up cumulatively under one topic, heading, or unit. There should then be an over-all review of the whole unit or section, and at the end of the term a review of the whole subject. And with slow learners, reviews must mean precisely what the term implies—re-view. Only a little in the way of variety, new angles, or a "new view" can safely be introduced, for any introduction of substantially new or unfamiliar material is almost sure to bring the response: "We never studied that!"

CONCLUSION

The devices and procedures suggested in the preceding paragraphs will increase the likelihood that slow learners will learn something from even a fairly conventional curriculum, but no one should suppose that improvement in teaching method alone, or the devising of a special bag of tricks, will alone suffice. Eventually, one reaches a point

[2] Henry Johnson. *Teaching of History,* Revised Edition, pp. 177-178. New York: The Macmillan Company, 1940.

beyond which any possible further variation of method is powerless t inculcate ideas, or cultivate insights that are forever beyond the grasp of the slow learner. One must then attack the content of the curriculum in a more fundamental and far-reaching fashion. The great increase in richness and variety of detail suggested above implies that the slow learner will cover a great deal less ground, for he has only a finite amount of time. Fortunately, there is a diminishing number of school in which a rigidly prescribed curriculum must be "covered" by all, and at the same rate. There is in most schools, therefore, considerable opportunity to enrich, vitalize, and illuminate the syllabus of most subjects in the interest of slow learners. If full advantage is taken of such opportunities, there will be in all schools much less likelihood of the kind of appraisal given by one youth who, in response to a question as to his most pressing personal problem, replied "How to get through school without losing my mind."

Very few professional books for teachers deal explicitly or at all adequately with the slow learner in junior and senior high schools. For the general nature of a suitable curriculum, the following are helpful:

Alberty, Harold. *Reorganizing the High School Curriculum.* New York: The Macmillan Company, 1948.

Featherstone, W. B. *A Functional Curriculum for Youth.* New York: American Book Company, 1950.

John Dewey Society. VIIIth Yearbook (H. L. Caswell, Editor), *The American High School.* New York: Harper and Brothers, 1946.

In school, at home, no matter where, one must never forget that the slow learner is no less a "person," no less an individual, than any other human being. His talents may be few, his promise slight, but he is none the less a member of mankind, cast in the same mold and made of the same clay. He claims equal right with others in the regard of his fellow men, and to guidance and instruction designed to stimulate his growth to the fullest stature his powers permit. He, too, must be helped to stand on his own feet and face the world, self-reliant and unafraid. "With malice towards none, with charity for all" must be the teacher's watchword. Any other point of view denies the faith that has made America great.

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